


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 921-20D4CS		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well <input type="checkbox"/> Coalbed Methane Well: NO <input type="checkbox"/>				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 720 929-6587		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> mary.mondragon@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> UTU 0575		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input checked="" type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input checked="" type="checkbox"/> STATE <input type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b> Ute Tribe		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	959 FNL 1292 FWL	NWNW	20	9.0 S	21.0 E	S
<b>Top of Uppermost Producing Zone</b>	1306 FNL 770 FWL	NWNW	20	9.0 S	21.0 E	S
<b>At Total Depth</b>	1306 FNL 770 FWL	NWNW	20	9.0 S	21.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 770		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 1600		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 515		<b>26. PROPOSED DEPTH</b> MD: 10400 TVD: 10310		
<b>27. ELEVATION - GROUND LEVEL</b> 4796		<b>28. BOND NUMBER</b>		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> Permit #43-8496		

**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP
<b>NAME</b> Danielle Piernot	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b>	<b>PHONE</b> 720 929-6156
	<b>EMAIL</b> danielle.piernot@anadarko.com
<b>API NUMBER ASSIGNED</b> 43047505980000	<b>APPROVAL</b>  Permit Manager

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	10400		
Pipe	Grade	Length	Weight			
	Grade HCP-110 LT&C	660	11.6			
	Grade I-80 LT&C	9740	11.6			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2610		
Pipe	Grade	Length	Weight			
	Grade J-55 LT&C	2610	36.0			

# T9S, R21E, S.L.B.&M.

Found 2006  
Aluminum Cap in  
Pile of Stones

N89°58.7'W - 39.921 (G.L.O.)  
N89°54'13"W - 2634.82' (Meas.)

N89°57.5'W - 40.129 (G.L.O.)  
N89°53'24"W - 2648.44' (Meas.)

Found 2006  
Aluminum Cap in  
Pile of Stones

Found 2006  
Aluminum Cap  
with Set Stone  
North of Cap

2657.29' (Measured)  
N00°03'14"W (Basis of Bearings)

N0°08.0'W - 80.522 (G.L.O.)

N00°03'21"W - 2657.24' (Meas.)

Found 2006  
Aluminum Cap in  
Pile of Stones

Found 2006  
Aluminum Cap in  
Pile of Stones

N00°00'48"W - 2668.44' (Meas.)  
N0°04.6'W - 40.429 (G.L.O.)

N00°02'18"E - 2636.94' (Meas.)  
N0°01.7'W - 39.953 (G.L.O.)

**WELL LOCATION:  
NBU 921-20D4CS**

ELEV. UNGRADED GROUND = 4796.4'

20

NBU 921-20D4CS (Surface Position)

NAD 83 LATITUDE = 40.026205° (40° 01' 34.338")  
LONGITUDE = 109.580413° (109° 34' 49.487")

NAD 27 LATITUDE = 40.026240° (40° 01' 34.466")  
LONGITUDE = 109.579723° (109° 34' 47.003")

NBU 921-20D4CS (Bottom Hole)

NAD 83 LATITUDE = 40.025254° (40° 01' 30.914")  
LONGITUDE = 109.582274° (109° 34' 56.188")

NAD 27 LATITUDE = 40.025289° (40° 01' 31.041")  
LONGITUDE = 109.581585° (109° 34' 53.704")

Found 2006  
Aluminum Cap in  
Pile of Stones  
under E-W Fence

Found 2006  
Aluminum Cap in  
Pile of Stones  
under E-W Fence

Found 2006  
Aluminum Cap in  
Pile of Stones,  
Under E/W Fence

N89°54'43"W - 2640.77' (Meas.)  
N89°59.4'W - 40.011 (G.L.O.)

S89°55'12"W - 2636.26' (Meas.)  
S89°51.2'W - 39.942 (G.L.O.)

## NOTES:

- ▲ = Section Corners Located
- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- The Bottom of hole bears S56°27'54"W 626.13' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

**Kerr-McGee**

**Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202

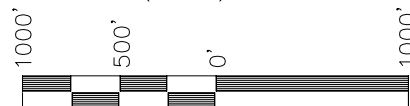
**NBU 921-20D4CS**

**WELL PLAT**

1306' FNL, 770' FWL (Bottom Hole)

NW ¼ NW ¼ OF SECTION 20, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



SCALE

## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF AGRICULTURAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

No. 362251  
KOLBY R.  
KAY

REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**

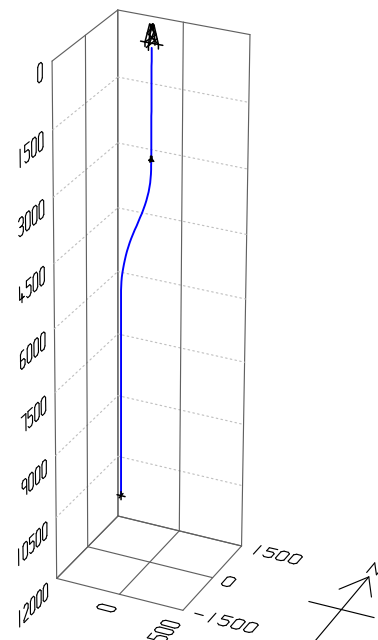
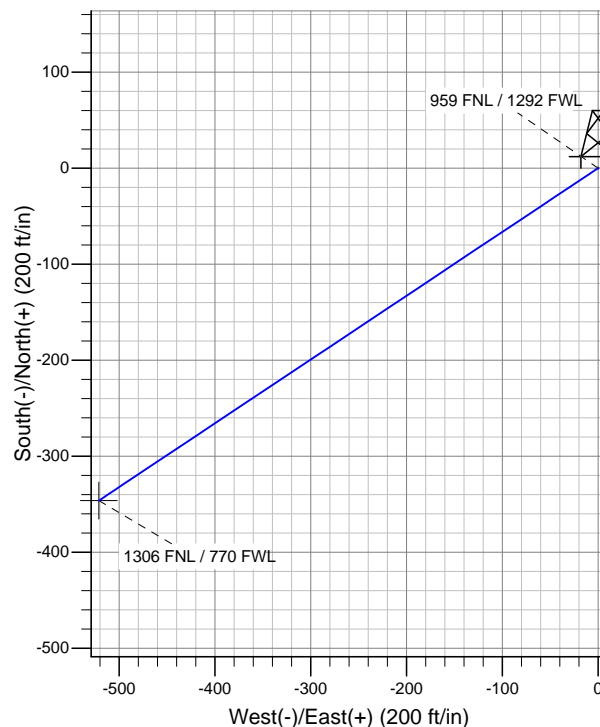
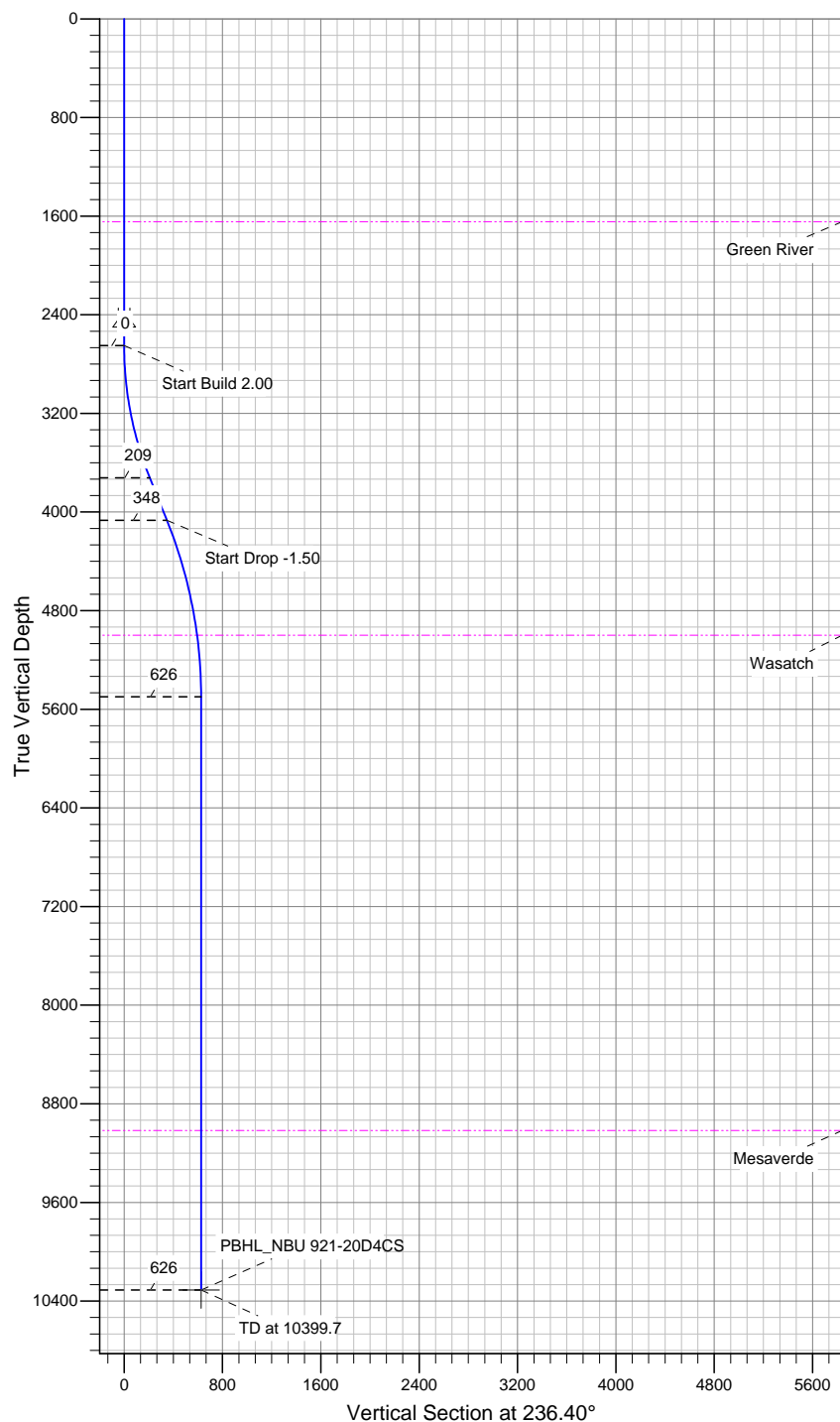
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.	<b>SHEET 2 OF 13</b>
DATE DRAWN: 02-25-09	DRAWN BY: K.K.O.	
SCALE: 1" = 1000'	Date Last Revised:	





Well Name: P\_NBU 921-20D4CS  
 Surface Location: UINTAH\_NBU 921-20D PAD  
 NAD 1927 (NADCON CONUS) Universal Transverse Mercator (US Survey Feet)  
 UTAH - UTM (feet), NAD27, Zone 12N  
 Ground Elevation: 4793.0  
 Northing 14538769.11 Easting 2038031.87 Latitude 40.026240°N Longitude 109.579723°W



#### SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
2	2650.0	0.00	0.00	2650.0	0.0	0.0	0.00	0.00	0.0
3	3750.0	22.00	236.40	3723.2	-115.4	-173.8	2.00	236.40	208.6
4	4121.6	22.00	236.40	4067.7	-192.4	-289.7	0.00	0.00	347.8
5	5588.2	0.00	0.00	5498.6	-346.3	-521.4	1.50	180.00	625.9
6	10399.7	0.00	0.00	10310.0	-346.3	-521.4	0.00	0.00	625.9



Azimuths to True North  
 Magnetic North: 11.37°

Magnetic Field  
 Strength: 52574.7snT  
 Dip Angle: 65.94°  
 Date: 4/20/2009  
 Model: IGRF200510

# **ROCKIES - PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 921-20D PAD**

**P\_NBU 921-20D4CS**

**P\_NBU 921-20D4CS**

**Plan: Plan #1 04-20-09 ZJRA6**

## **Standard Planning Report - Geographic**

**20 April, 2009**

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-20D4CS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4793.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4793.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-20D4CS		
<b>Design:</b>	Plan #1 04-20-09 ZJRA6		

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site						UINTAH_NBU 921-20D PAD							
Site Position: From: Position Uncertainty:			Lat/Long  0.0 ft			Northing:		14,538,771.61 ft		Latitude:		40.026246°N	
						Easting:		2,038,051.72 ft		Longitude:		109.579652°W	
						Slot Radius:		"		Grid Convergence:		0.91 °	

Well	P_NBU 921-20D4CS					
Well Position	+N-S	0.0 ft	Northing:	14,538,769.11 ft	Latitude:	40.026240°N
	+E-W	0.0 ft	Easting:	2,038,031.87 ft	Longitude:	109.579723°W
Position Uncertainty		0.0 ft	Wellhead Elevation:	ft	Ground Level:	4,793.0 ft

<b>Wellbore</b>	P_NBU 921-20D4CS				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF200510	4/20/2009	11.37	65.94	52,575

<b>Design</b>	Plan #1 04-20-09 ZJRA6			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0
<b>Vertical Section:</b>	<b>Depth From (TVD) (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Direction (°)</b>
	10,310.0	0.0	0.0	236.40

<b>Plan Sections</b>										
<b>Measured Depth (ft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (ft)</b>	<b>+N/-S (ft)</b>	<b>+E/-W (ft)</b>	<b>Dogleg Rate (°/100ft)</b>	<b>Build Rate (°/100ft)</b>	<b>Turn Rate (°/100ft)</b>	<b>TFO (°)</b>	<b>Target</b>
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,650.0	0.00	0.00	2,650.0	0.0	0.0	0.00	0.00	0.00	0.00	
3,750.0	22.00	236.40	3,723.2	-115.4	-173.8	2.00	2.00	0.00	236.40	
4,121.6	22.00	236.40	4,067.7	-192.4	-289.7	0.00	0.00	0.00	0.00	
5,588.2	0.00	0.00	5,498.6	-346.3	-521.4	1.50	-1.50	0.00	180.00	
10,399.7	0.00	0.00	10,310.0	-346.3	-521.4	0.00	0.00	0.00	0.00	PBHL_NBU 921-20

# APC

## Planning Report - Geographic

<b>Database:</b>	apc_edmp	<b>Local Co-ordinate Reference:</b>	Well P_NBU 921-20D4CS
<b>Company:</b>	ROCKIES - PLANNING	<b>TVD Reference:</b>	WELL @ 4793.0ft (Original Well Elev)
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>MD Reference:</b>	WELL @ 4793.0ft (Original Well Elev)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>North Reference:</b>	True
<b>Well:</b>	P_NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	P_NBU 921-20D4CS		
<b>Design:</b>	Plan #1 04-20-09 ZJRA6		

### Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	14,538,769.11	2,038,031.87	40.026240°N	109.579723°W
1,645.0	0.00	0.00	1,645.0	0.0	0.0	14,538,769.11	2,038,031.87	40.026240°N	109.579723°W
<b>Green River</b>									
2,500.0	0.00	0.00	2,500.0	0.0	0.0	14,538,769.11	2,038,031.87	40.026240°N	109.579723°W
<b>Surface Casing</b>									
2,650.0	0.00	0.00	2,650.0	0.0	0.0	14,538,769.11	2,038,031.87	40.026240°N	109.579723°W
3,750.0	22.00	236.40	3,723.2	-115.4	-173.8	14,538,650.92	2,037,859.98	40.025923°N	109.580344°W
4,121.6	22.00	236.40	4,067.7	-192.4	-289.7	14,538,572.06	2,037,745.28	40.025712°N	109.580758°W
5,088.2	7.50	236.40	5,000.0	-328.3	-494.2	14,538,433.00	2,037,543.02	40.025339°N	109.581488°W
<b>Wasatch</b>									
5,588.2	0.00	0.00	5,498.6	-346.3	-521.4	14,538,414.49	2,037,516.09	40.025289°N	109.581585°W
9,106.7	0.00	0.00	9,017.0	-346.3	-521.4	14,538,414.49	2,037,516.09	40.025289°N	109.581585°W
<b>Mesaverde</b>									
10,399.7	0.00	0.00	10,310.0	-346.3	-521.4	14,538,414.49	2,037,516.09	40.025289°N	109.581585°W

### Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL_NBU 921-20D4	0.00	0.00	10,310.0	-346.3	-521.4	14,538,414.49	2,037,516.09	40.025289°N	109.581585°W
- plan hits target center									
- Point									

### Casing Points

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
2,500.0	2,500.0	Surface Casing	9-5/8	12-1/4

### Formations

Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
5,088.2	5,000.0	Wasatch		0.00	
9,106.7	9,017.0	Mesaverde		0.00	
1,645.0	1,645.0	Green River		0.00	

**NBU 921-20D4CS**

Pad: NBU 921-20D

Surface: 959' FNL 1,292' FWL (NW/4NW/4)

BHL: 1,306' FNL 770' FWL (NW/4NW/4)

Sec. 20 T9S R21

Uintah, Utah

Mineral Lease: UTU 0575

**ONSHORE ORDER NO. 1**

***DRILLING PROGRAM***

1. – 2. **Estimated Tops of Important Geologic Markers:**  
**Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:**

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 – Surface	
Green River	1,645'	
Birds Nest	1,896'	Water
Mahogany	2,409'	Water
Wasatch	5,000'	Gas
Mesaverde	8,030'	Gas
MVU2	9,017'	Gas
MVL1	9,562'	Gas
TVD	10,310'	
TD	10,400'	

3. **Pressure Control Equipment** (Schematic Attached)

*Please refer to the attached Drilling Program.*

4. **Proposed Casing & Cementing Program:**

*Please refer to the attached Drilling Program.*

5. **Drilling Fluids Program:**

*Please refer to the attached Drilling Program.*

6. **Evaluation Program:**

*Please refer to the attached Drilling Program.*

**7. Abnormal Conditions:**

Maximum anticipated bottomhole pressure calculated at 10,400' TD, approximately equals 6,479 psi (calculated at 0.62 psi/foot).

Maximum anticipated surface pressure equals approximately 4,155 psi (bottomhole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot).

**8. Anticipated Starting Dates:**

*Drilling is planned to commence immediately upon approval of this application.*

**9. Variances:**

*Please refer to the attached Drilling Program.*

*Onshore Order #2 – Air Drilling Variance*

*Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2*

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

*This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.*

*The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.*

*More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.*

***Background***

*In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.*

*Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.*

*The air rig is then mobilized to drill the surface casing hole by drilling a 12-1/4 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 12-1/4 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 9-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.*

*KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.*

#### ***Variance for BOPE Requirements***

*The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.*

#### ***Variance for Mud Material Requirements***

*Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.*

#### ***Variance for Special Drilling Operation (surface equipment placement) Requirements***

*Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.*

*Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.*

*Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.*

*Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.*

#### ***Variance for FIT Requirements***

*KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). The air rig operation utilizes a 5M BOPE when drilling. This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.*

#### ***Conclusion***

*The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.*

#### **10. Other Information:**

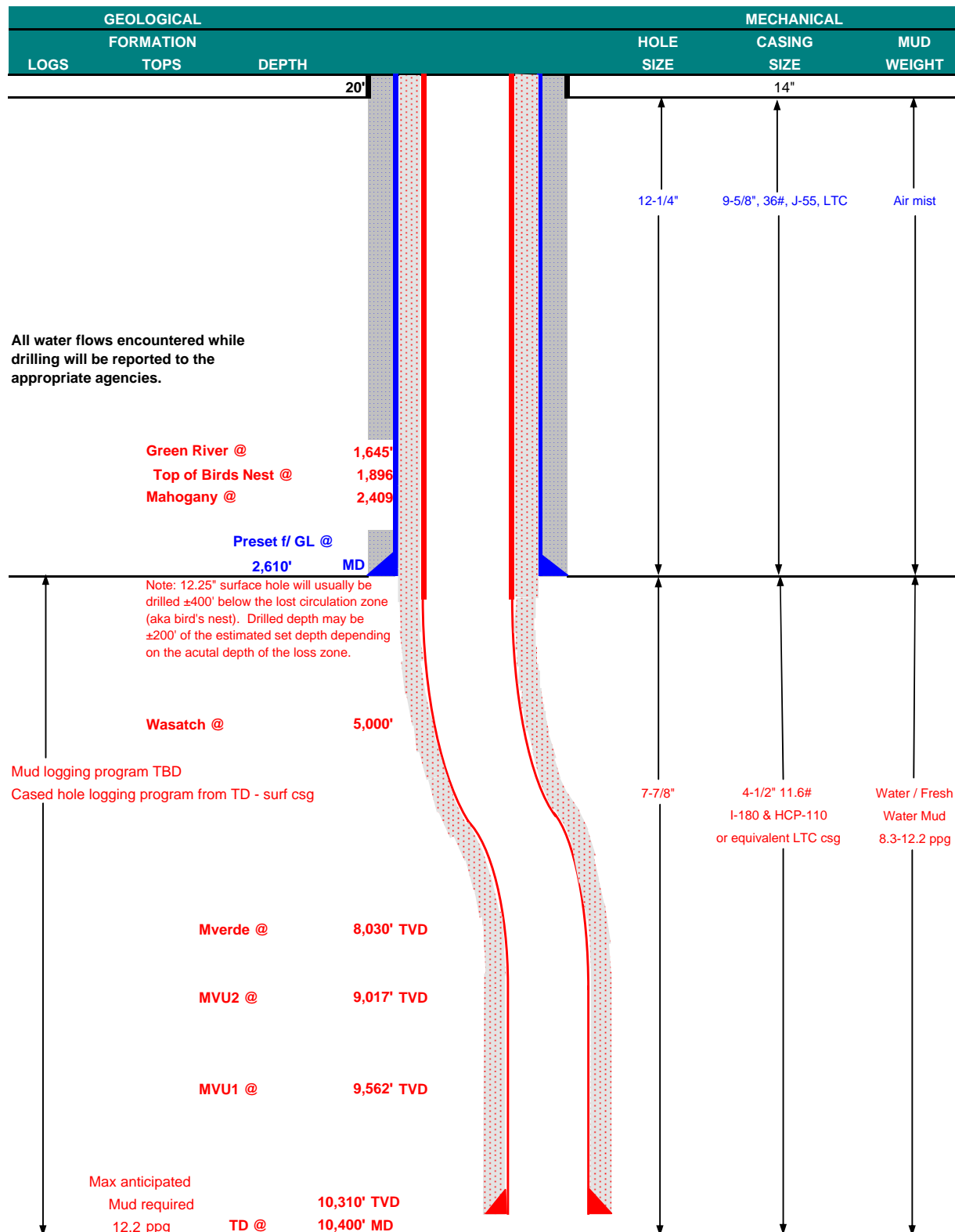
*Please refer to the attached Drilling Program.*





## KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP				DATE	July 21, 2009			
WELL NAME	NBU 921-20D4CS				TD	10,310'	TVD	10,400' MD	
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah		FINISHED ELEVATION	4,793'
SURFACE LOCATION	NW/4 NW/4 959' FNL 1,292' FWL Sec 20 T 9S R 21E								
	Latitude: 40.026205		Longitude: -109.580413		NAD 83				
BTM HOLE LOCATION	NW/4 NW/4 1,306' FNL 770' FWL Sec 20 T 9S R 21E								
	Latitude: 40.025254		Longitude: -109.582274		NAD 83				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: BLM (Minerals), Ute Tribe (Surface), UDOGM Tri-County Health Dept.								





## KERR-McGEE OIL & GAS ONSHORE LP

### DRILLING PROGRAM

#### CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS		
						BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,520	2,020	453,000
SURFACE	9-5/8"	0 to 2,610	36.00	J-55	LTC	0.82	1.65	6.14
						7,780	6,350	201,000
PRODUCTION	4-1/2"	0 to 9,740	11.60	I-80	LTC	1.82	1.08	2.05
						10,690	8,650	279,000
	4-1/2"	9,740 to 10,400	11.60	HCP-110	LTC	73.62	1.32	44.79

1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

2) MASP (Prod Casing) = Pore Pressure at TD - (0.22 psi/ft-partial evac gradient x TD)  
 (Burst Assumptions: TD = 12.2 ppg) 0.22 psi/ft = gradient for partially evac wellbore  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MASP 4,155 psi**

3) Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD  
 (Burst Assumptions: TD = 12.2 ppg) 0.62 psi/ft = bottomhole gradient  
 (Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)  
**MABHP 6,479 psi**

#### CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	215	60%	15.60	1.18
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	380	0%	15.60	1.18
			+ 2% CaCl + 0.25 pps flocele				
			Premium cmt + 2% CaCl				
SURFACE		<b>NOTE: If well will circulate water to surface, option 2 will be utilized</b>					
Option 2	LEAD	2,110'	65/35 Poz + 6% Gel + 10 pps gilsonite	500	35%	12.60	1.81
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	180	35%	15.60	1.18
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.60	1.18
PRODUCTION	LEAD	4,500'	Premium Lite II + 3% KCl + 0.25 pps	430	40%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,900'	50/50 Poz/G + 10% salt + 2% gel	1,450	40%	14.30	1.31
			+ 0.1% R-3				

\*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

\*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

#### FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

#### ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

John Huycke / Emile Goodwin

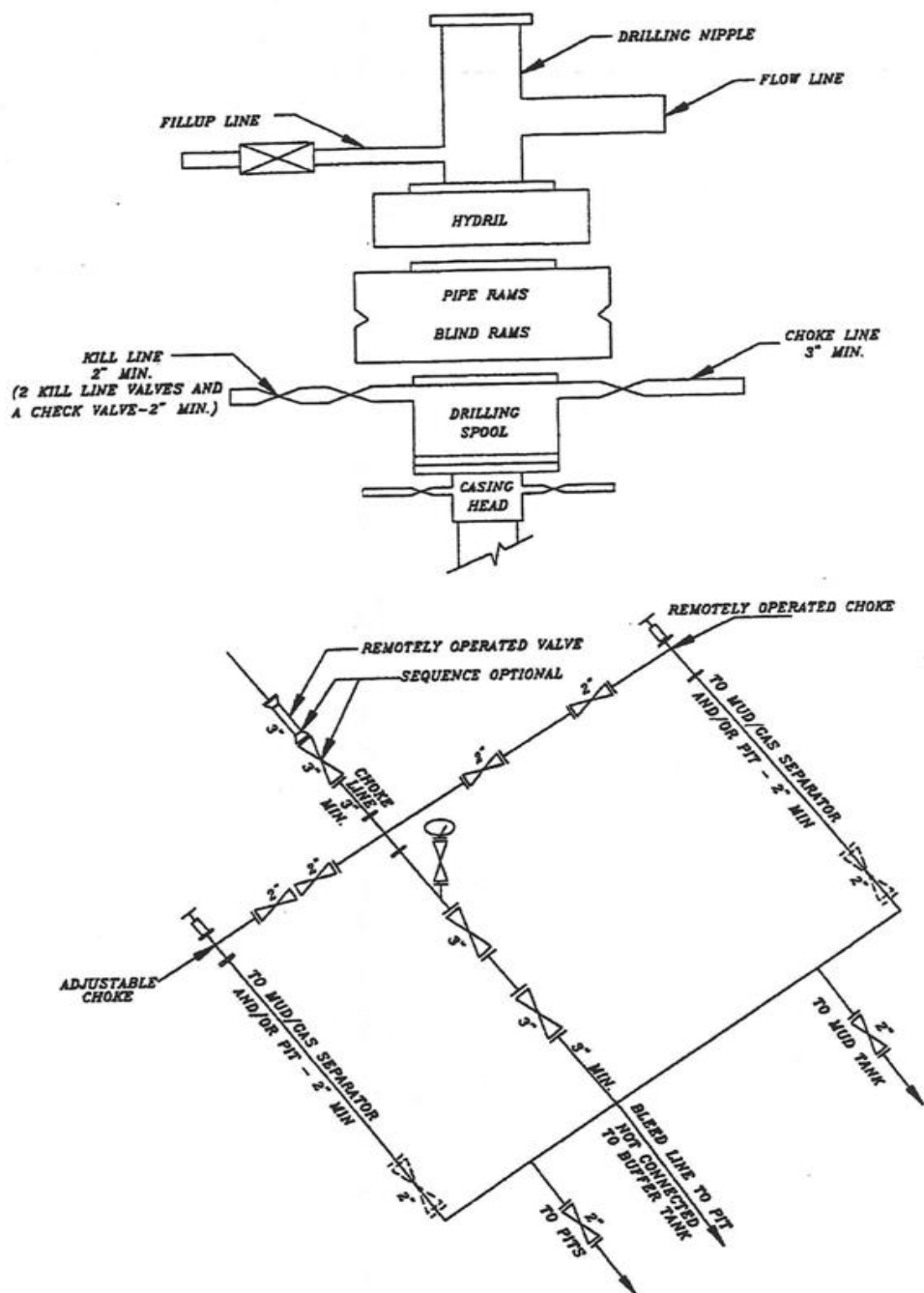
DATE:

DRILLING SUPERINTENDENT:

John Merkel / Lovel Young

DATE:

# EXHIBIT A NBU 921-20D4CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

# WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD – NBU 921–20B3CS,  
NBU 921–20D4CS, NBU 921–20D1CS & NBU 921–20D4BS

## BOTTOM HOLE FOOTAGES

NBU 921–20B3CS  
1144' FNL, 2612' FEL

NBU 921–20D4CS  
1306' FNL, 770' FWL

NBU 921–20D1CS  
346' FNL, 720' FWL

NBU 921–20D4BS  
798' FNL, 698' FWL

## SURFACE POSITION FOOTAGES:

NBU 921–20B3CS  
957' FNL, 1312' FWL

NBU 921–20D4CS  
959' FNL, 1292' FWL

NBU 921–20D1CS  
961' FNL, 1272' FWL

NBU 921–20D4BS  
963' FNL, 1252' FWL

Natural Cotton 11–20 (Dry Hole Marker)  
1001' FNL, 1019' FWL

## RELATIVE COORDINATES

From Surface Position to Bottom Hole

WELL	NORTH	EAST
921–20B3CS	–189'	1358'
921–20D4CS	–346'	–522'
921–20D1CS	616'	–553'
921–20D4BS	166'	–555'

$N41^{\circ}53'47''W = 827.88'$   
 $Az = 318.10361^{\circ}$   
(To Bottom Hole)

$N73^{\circ}19'00''W = 578.88'$   
 $Az = 286.68333^{\circ}$   
(To Bottom Hole)

$S56^{\circ}27'54''W = 626.13'$   
 $Az = 236.46500^{\circ}$   
(To Bottom Hole)

$N84^{\circ}14'18''E$   
 $Az = 84.23833^{\circ}$   
 $S82^{\circ}04'22''E = 1371.52'$   
 $Az = 97.92722^{\circ}$   
(To Bottom Hole)

BASIS OF BEARINGS IS THE WEST  
LINE OF THE NW 1/4 OF SECTION 20,  
T9S, R21E, S.L.B.&M. WHICH IS TAKEN  
FROM GLOBAL POSITIONING SATELLITE  
OBSERVATIONS TO BEAR  $N00^{\circ}03'14''W$ . D.H.M. = Dry Hole Marker

## LATITUDE & LONGITUDE

Surface Position – (NAD 83)

WELL	N. LATITUDE	W. LONGITUDE
921–20B3CS	40°01'34.359" 40.026211"	109°34'49.230" 109.580342"
921–20D4CS	40°01'34.338" 40.026205"	109°34'49.487" 109.580413"
921–20D1CS	40°01'34.318" 40.026199"	109°34'49.743" 109.580484"
921–20D4BS	40°01'34.299" 40.026194"	109°34'49.999" 109.580555"
Dry Hole Marker Natural Cotton 11–20	40°01'33.925" 40.026090"	109°34'53.002" 109.581390"

## LATITUDE & LONGITUDE

Surface Position – (NAD 27)

WELL	N. LATITUDE	W. LONGITUDE
921–20B3CS	40°01'34.486" 40.026246"	109°34'46.747" 109.579652"
921–20D4CS	40°01'34.466" 40.026240"	109°34'47.003" 109.579723"
921–20D1CS	40°01'34.445" 40.026235"	109°34'47.260" 109.579794"
921–20D4BS	40°01'34.426" 40.026229"	109°34'47.516" 109.579865"
Dry Hole Marker Natural Cotton 11–20	40°01'34.053" 40.026126"	109°34'50.519" 109.580700"

## LATITUDE & LONGITUDE

Bottom Hole – (NAD 27)

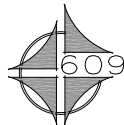
WELL	N. LATITUDE	W. LONGITUDE
921–20B3CS	40°01'32.635" 40.025732"	109°34'29.287" 109.574802"
921–20D4CS	40°01'31.041" 40.025289"	109°34'53.704" 109.581585"
921–20D1CS	40°01'40.526" 40.027924"	109°34'54.375" 109.581771"
921–20D4BS	40°01'36.061" 40.026684"	109°34'54.644" 109.581846"

Kerr–McGee

Oil & Gas Onshore, LP

1099 18th Street – Denver, Colorado 80202

NBU 921–20B3CS, NBU 921–20D4CS,  
NBU 921–20D1CS & NBU 921–20D4BS  
LOCATED IN SECTION 20, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 01-16-09

SURVEYED BY: M.S.B.

DATE DRAWN: 02-26-09

DRAWN BY: K.K.O.

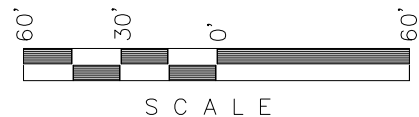
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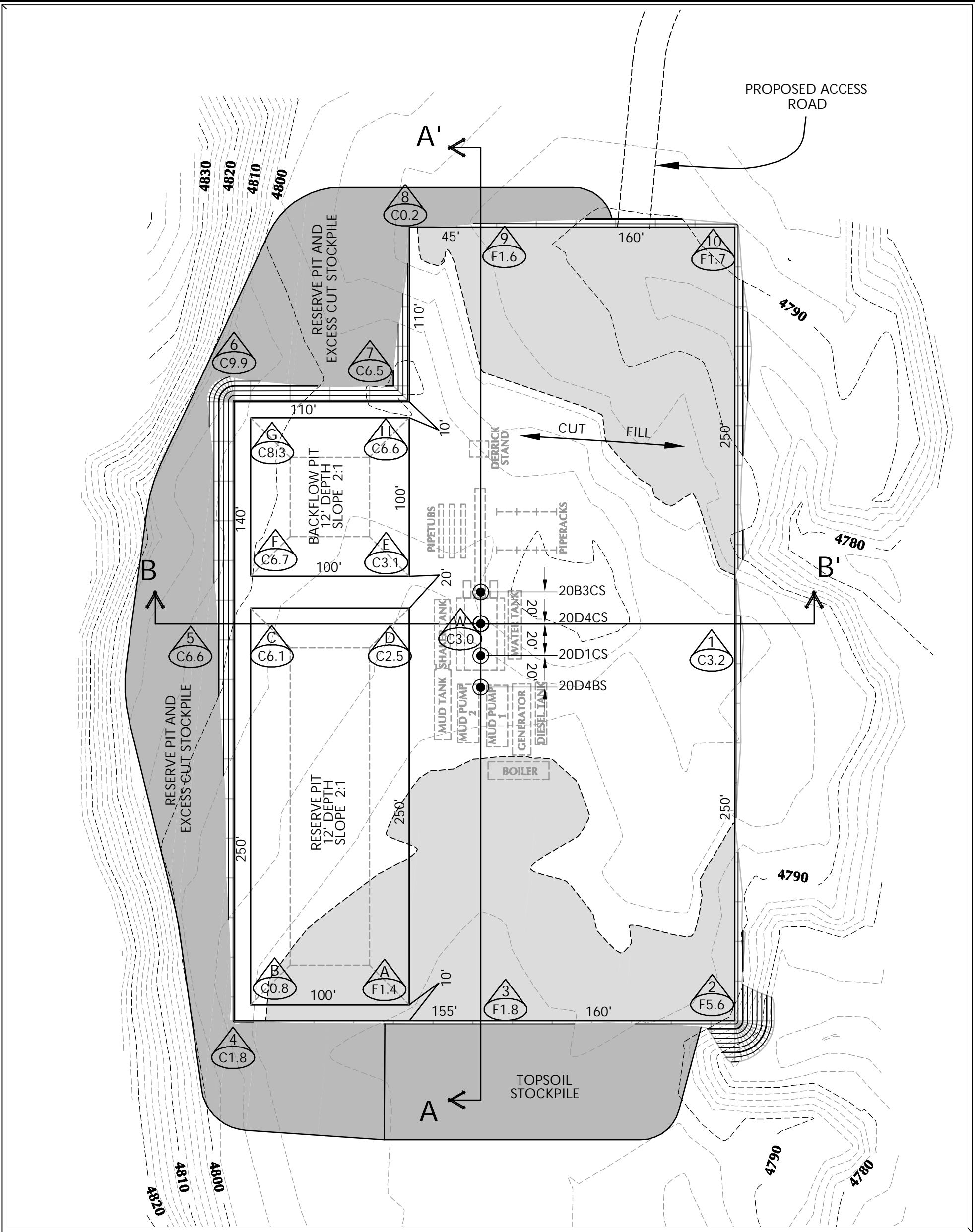
Timberline

Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

SHEET  
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OF 13





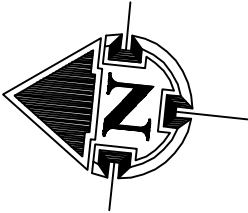
WELL PAD NBUs 921-20D QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 4796.4'  
FINISHED GRADE ELEVATION = 4793.4'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 9,912 C.Y.  
TOTAL FILL FOR WELL PAD = 4,910 C.Y.  
TOPSOIL @ 6" DEPTH = 2,886 C.Y.  
EXCESS MATERIAL = 5,002 C.Y.  
TOTAL DISTURBANCE = 3.58 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,730 BARRELS  
RESERVE PIT VOLUME  
+/- 7,720 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 9,490 BARRELS  
BACKFLOW PIT VOLUME  
+/- 2,660 CY

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)



HORIZONTAL 0 30 60 1" = 60'  
2' CONTOURS

KERR-MCGEE OIL & GAS  
ONSHORE L.P.

1099 18th Street - Denver, Colorado 80202



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=60'

Date: 3/17/09

SHEET NO:

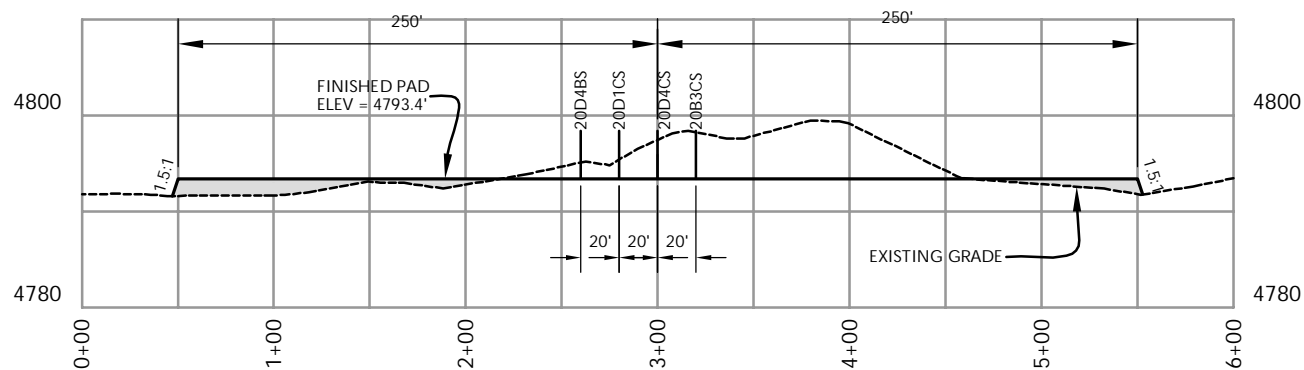
6

6 OF 13

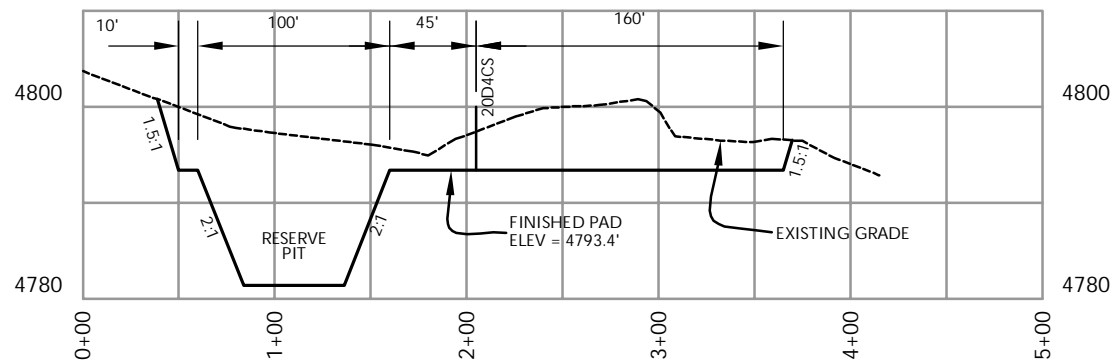
REVISED:

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

WELL PAD - LOCATION LAYOUT  
NBUs 921-20B3CS, NBUs 921-20D4CS,  
NBUs 921-20D1CS & NBUs 921-20D4BS  
LOCATED IN SECTION 20, T.9S., R.21E.  
S.L.B.&M., UTAH COUNTY, UTAH



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

**KERR-MCGEE OIL & GAS  
ONSHORE L.P.**

1099 18th Street - Denver, Colorado 80202

**WELL PAD - CROSS SECTIONS**  
NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS  
LOCATED IN SECTION 20, T.9S., R.21E.  
S.L.B.&M., UINTAH COUNTY, UTAH



**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'

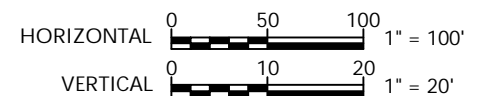
Date: 3/17/09

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**7**

7 OF 13

REVISED:



**Timberline** (435) 789-1365  
**Engineering & Land Surveying, Inc.**  
38 WEST 100 NORTH VERNAL, UTAH 84078

'APIWellNo:43047505980000'



'APIWellNo:43047505980000'

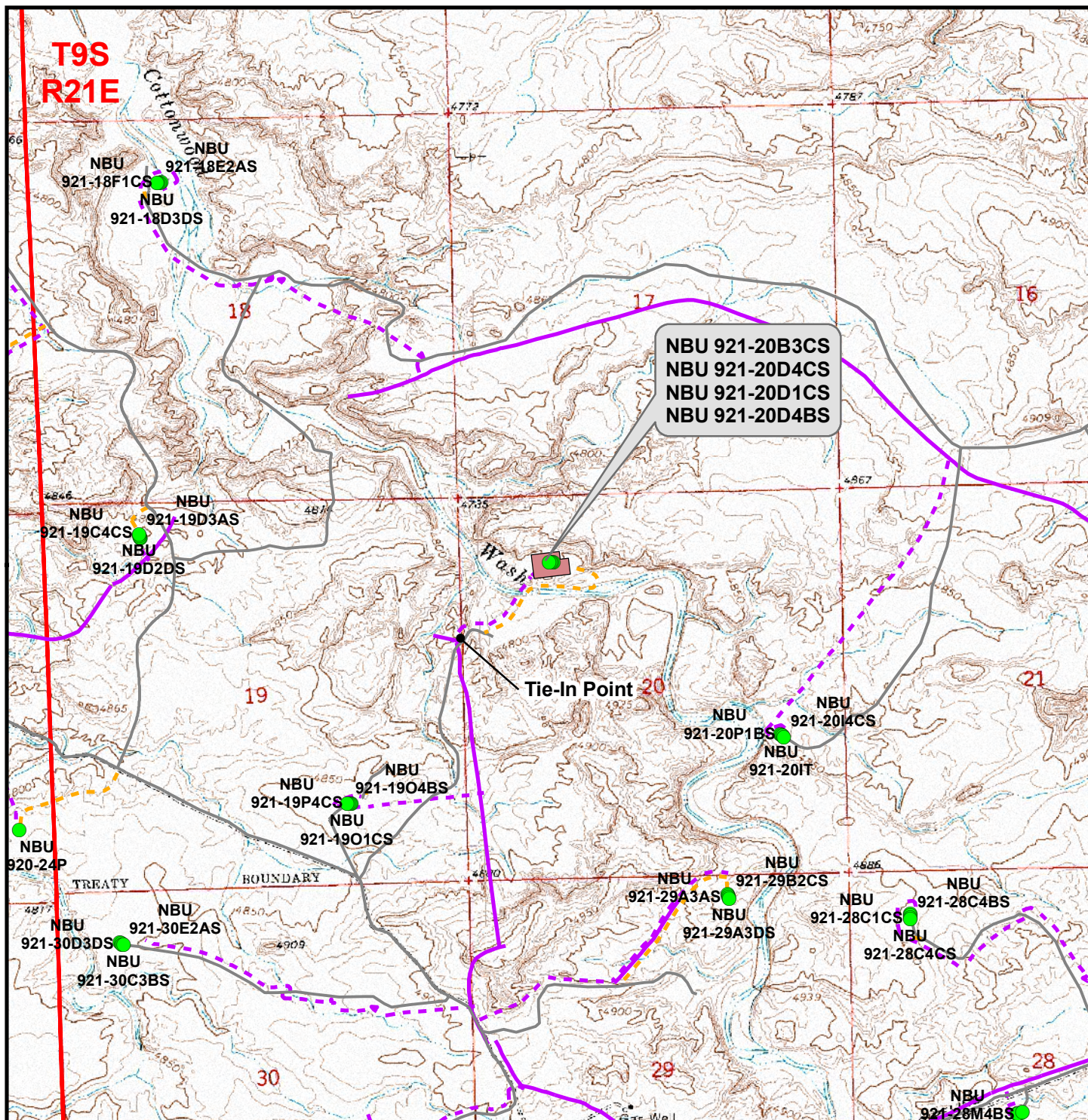




'APIWellNo:43047505980000'







### Legend

- Well - Proposed
- Well Pad
- Road - Proposed
- Pipeline - Proposed
- Road - Existing
- Pipeline - Existing

Proposed Pipeline Length From Tie-In Point To Edge Of Pad:  $\pm 1,530\text{ft}$   
 Proposed Pipeline Length Around Pad:  $\pm 660\text{ft}$

**Kerr-McGee Oil & Gas Onshore, LP**  
 1099 18th Street, Denver, Colorado 80202

**NBU 921-20B3CS, NBU 921-20D4CS,  
 NBU 921-20D1CS & NBU 921-20D4BS**  
**Topo D**  
**Located In Section 20, T9S, R21E**  
**S.L.B.&M., Uintah County, Utah**



Scale: 1" = 2000ft  
 NAD83 USP Central  
 Drawn: JELO  
 Revised:  
 Date: 24 Feb 2009  
 Date:

Sheet No:  
**12** 12 of 13



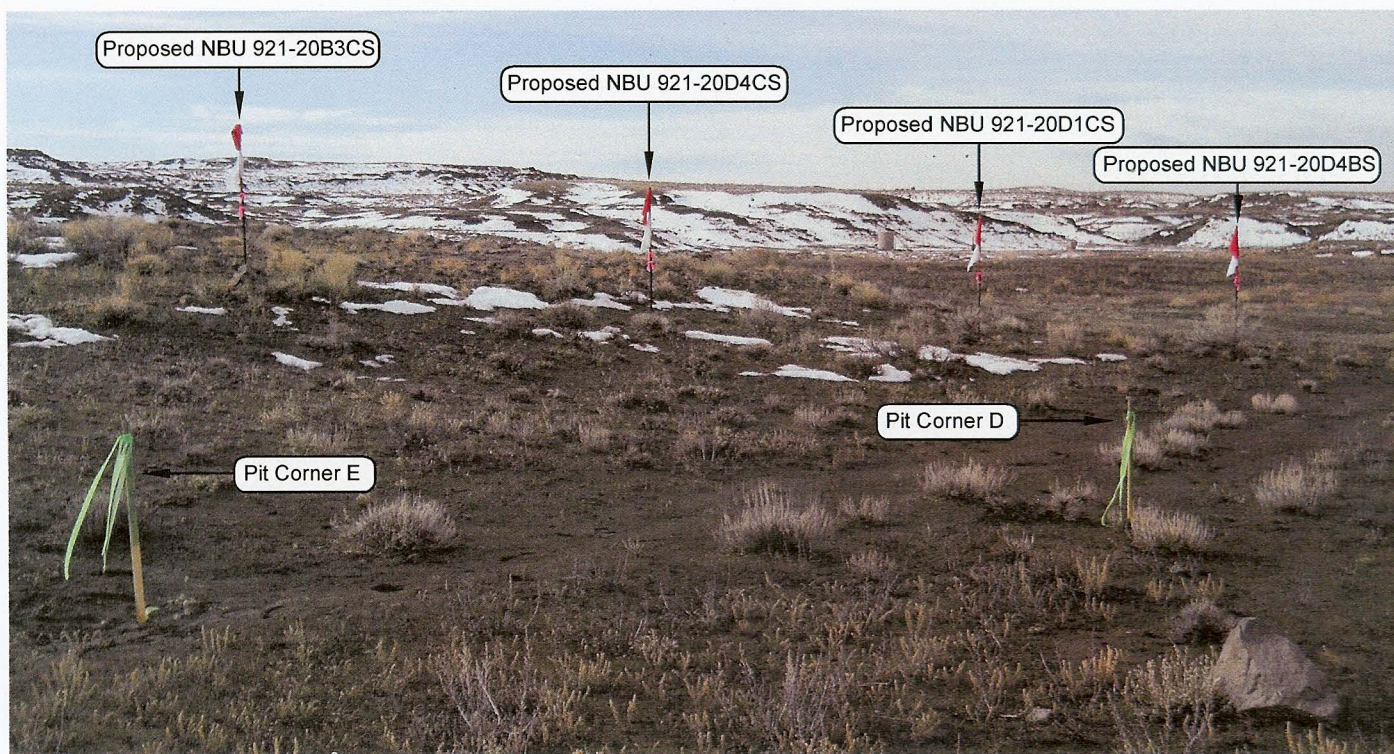


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

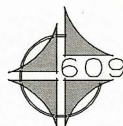
CAMERA ANGLE: SOUTHERLY



PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

**Kerr-McGee**  
**Oil & Gas Onshore, LP**  
 1099 18th Street - Denver, Colorado 80202



CONSULTING, LLC  
 371 Coffeen Avenue  
 Sheridan WY 82801  
 Phone 307-674-0609  
 Fax 307-674-0182

NBU 921-20B3CS, NBU 921-20D4CS,  
 NBU 921-20D1CS & NBU 921-20D4BS  
 LOCATED IN SECTION 20, T9S, R21E,  
 S.L.B.&M. UTAH COUNTY, UTAH.

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

DATE TAKEN: 01-16-09

DATE DRAWN: 02-26-09

REVISED:

**Timberline**

Engineering & Land Surveying, Inc.  
 209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

**SHEET**  
**8**  
**OF 13**



**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS, & NBU 921-20D4BS**  
**Section 20, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 5.1 MILES TO A SECOND SERVICE ROAD TO THE NORTHEAST. EXIT LEFT AND PROCEED IN A NORTH BY NORTHEAST DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.8 MILES TO THE TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHEASTERLY, THEN EASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2,390 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE WELL LOCATION IS APPROXIMATELY 42.4 MILES IN A SOUTHERLY DIRECTION.

**NBU 921-20B3CS**

Surface: 957' FNL 1,312' FWL (NW/4NW/4)  
BHL: 1,144' FNL 2,612' FEL (NW/4NE/4)

**NBU 921-20D1CS**

Surface: 961' FNL 1,272' FWL (NW/4NW/4)  
BHL: 346' FNL 720' FWL (NW/4NW/4)

**NBU 921-20D4BS**

Surface: 963' FNL 1,252' FWL (NW/4NW/4)  
BHL: 798' FNL 698' FWL (NW/4NW/4)

**NBU 921-20D4CS**

Surface: 959' FNL 1,292' FWL (NW/4NW/4)  
BHL: 1,306' FNL 770' FWL (NW/4NW/4)

Pad: NBU 921-20D  
Sec. 20 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0575

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface locations in NW/4 NW/4 of Section 20 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Bucky Secakuku – BIA
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 2,390'$  ( $\pm 0.45$  miles) of new access road is proposed. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

Per the onsite meeting, Kerr-McGee will construct a low-water crossing on the Cottonwood Wash for the access road (100-year flood standards).

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 2,190'$  ( $\pm 0.41$  miles) of pipeline is proposed. Refer to Topo D for the existing pipeline.** Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

Per the onsite meeting, the following items were requested:

- The equipment (new and old infrastructure) will be painted Shadow Grey.
- A 404 permit will be obtained from the Core of Engineers to bury the proposed pipeline, as well as the existing pipeline, under the Cottonwood Wash.

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**7. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**10. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.

**11. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe  
PO Box 70  
Fort Duchesne, Utah 84026  
435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

**12. Other Information:**

*See MDP for additional details on Other Information.*

Per the onsite meeting, the following items were requested:

- A raptor survey will be completed if the wells are not constructed during 2009. This survey is to be conducted on the raptor nest east of the location.
- Archeological monitoring during construction.



**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720-929-6724)


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

July 22, 2009  
Date



## Kerr-McGee Oil & Gas Onshore LP

1099 18th Street, Suite 1800  
Denver, CO 80202-1918  
P.O. Box 173779  
Denver, CO 80217-3779  
720-929-6000

April 13, 2009

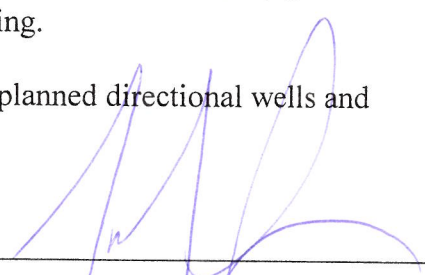
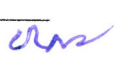
Ms. Diana Mason  
Utah Department of Oil, Gas & Mining  
P.O. Box 145801  
Salt Lake City, Utah 54114-5801

Re: Directional Application  
NBU 921-20B3CS  
NBU 921-20D4CS  
NBU 921-20D1CS  
NBU 921-20D4BS  
Uintah County, Utah  
Natural Buttes Unit

Dear Ms. Mason:

Pursuant to the filing of NBU 921-20B3CS, NBU 921-20D4CS, NBU 921-20D1CS, NBU 921-20D4BS wells, Application to Drill, regarding the above referenced Mesaverde wells on April 13, 2009, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling.

EOG Resources, Inc. has received notification of the planned directional wells and consents to the directional drilling plan.

By:   
Name: J. Michael Schween  
Title: Land Manager  
EOG Resources, Inc. 

CLASS I REVIEW OF KERR-MCGEE OIL & GAS  
ONSHORE LP'S 50 PROPOSED WELL LOCATIONS  
IN T9S, R21E SECS. 19, 20, 21, 23, 28, 29 AND 30  
UINTAH COUNTY, UTAH

By:

Jacki A. Montgomery

Prepared For:

Ute Tribal Land  
Uintah and Ouray Agency

Bureau of Land Management  
Vernal Field Office

Prepared Under Contract With:

Kerr-McGee Oil & Gas Onshore LP  
1368 South 1200 East  
Vernal, Utah 84078

Prepared By:

Montgomery Archaeological Consultants, Inc.  
P.O. Box 219  
Moab, Utah 84532

MOAC Report No. 09-11

February 23, 2009

United States Department of Interior (FLPMA)  
Permit No. 08-UT-60122

Public Lands Policy Coordination Office  
Archaeological Survey Permit No. 117

Ute Tribal Permit No. A08-363

# **Paleontological Assessment for Anadarko Petroleum Corp.**

NBU 921-20B3CS, D4CS, D1CS, D4BS  
Ouray SE Quadrangle  
Uintah County, Utah

Prepared for  
**Anadarko Petroleum Corp.**  
and  
**Ute Tribe**  
**Uintah and Ouray Reservation**

Prepared by  
**SWCA Environmental Consultants**  
SWCA #UT09-14314-34



# Grasslands Consulting, Inc.

4800 Happy Canyon Road, Suite 110, Denver, CO 80237

(303) 759-5377 Office (303) 759-5324 Fax

## **SPECIAL STATUS PLANT AND WILDLIFE SPECIES REPORT**

**Operator:** Kerr-McGee Oil & Gas Onshore LP

**Wells:** NBU 921-20D1CS, NBU 921-20D4BS, NBU 921-20D4CS, NBU 921-20B3CS

**Pipelines:** Associated Pipelines to proposed well pad

**Access Roads:** Associated access roads to proposed well pad

**Location:** Section 20, Township 9 South, Range 21 East; Uintah County, Utah

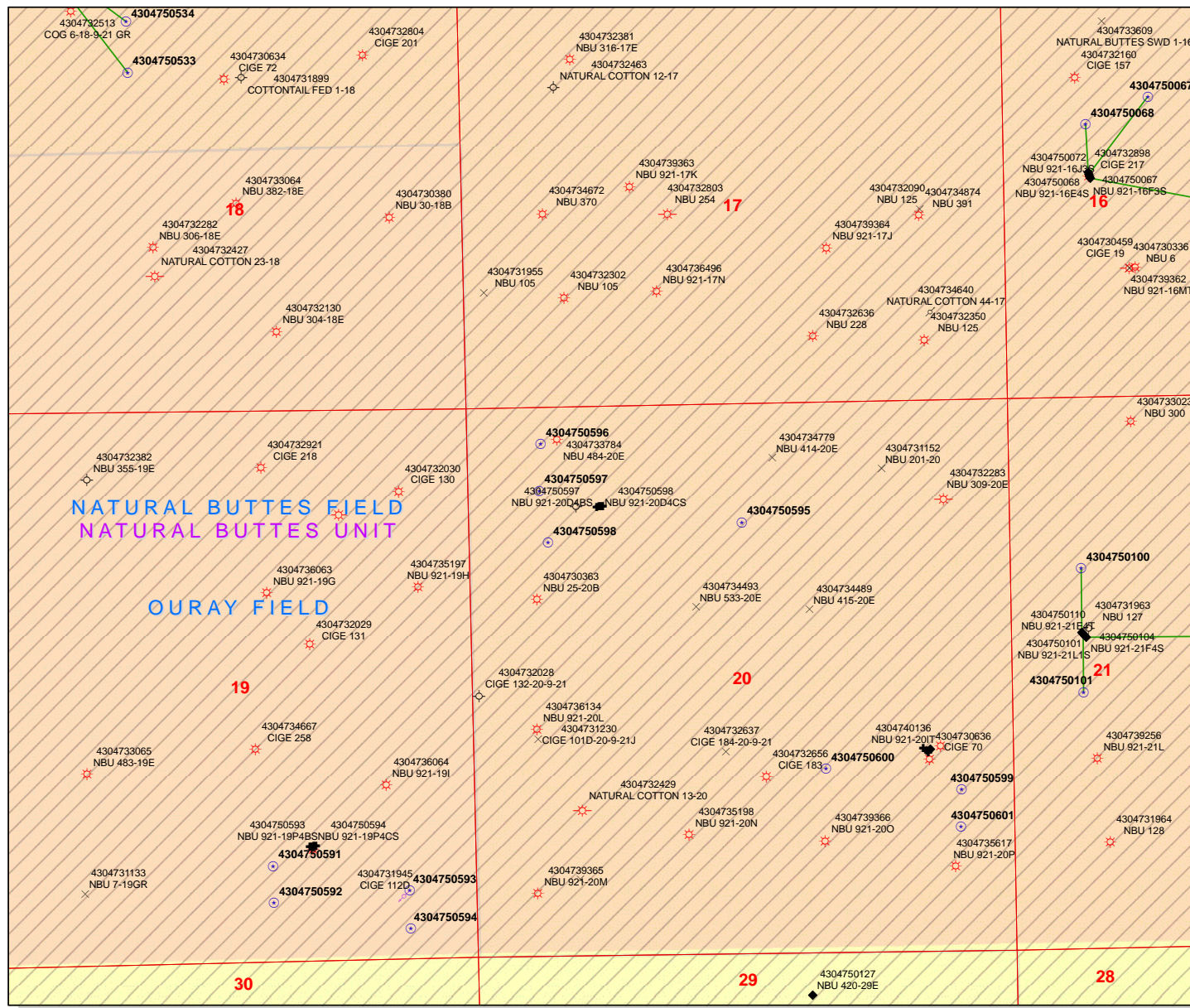
**Survey-Species:** Uinta Basin Hookless Cactus (*Sclerocactus wetlandicus*) and nesting raptors

**Date:** 06/25/2009

**Observer(s):** Grasslands Consulting, Inc. Biologists: Nick Hall, BJ Lukins, Jay Slocum, Matt Kelahan, and Jonathan Sexauer. Technician: Chad Johnson,

**Weather:** Partly cloudy, 75-80°F, 0-5 mph winds with no precipitation.





**API Number: 4304750598**  
**Well Name: NBU 921-20D4CS**  
**Township 09.0 S Range 21.0 E Section 20**  
**Meridian: SLBM**  
Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

Map Prepared:  
Map Produced by Diana Mason

**Units**

STATUS	Wells Query Events
ACTIVE	EXPLORARY
EXPLORARY	GAS STORAGE
GAS STORAGE	NF PP OIL
NF PP OIL	NF SECONDARY
NF SECONDARY	PI OIL
PI OIL	PP GAS
PP GAS	PP GEOTHERM
PP GEOTHERM	PP OIL
PP OIL	SECONDARY
SECONDARY	TERMINATED
TERMINATED	

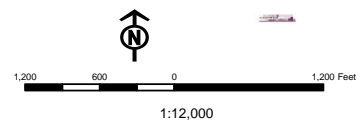
**Fields**

STATUS
ACTIVE
COMBINED
Sections

**Wells Query Events**

GIS\_STAT\_TYPE

- <Hub>
- APD
- DRL
- GI
- GS
- LA
- NEW
- OPS
- PA
- PGW
- POW
- RET
- SGW
- SOW
- TA
- TW
- WI
- WS



# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Utah State Office  
P.O. Box 45155  
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:  
3160  
(UT-922)

July 24, 2009

### Memorandum

To: Assistant District Manager Minerals, Vernal District  
From: Michael Coulthard, Petroleum Engineer  
Subject: 2009 Plan of Development Natural Buttes Unit  
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2009 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
-------	-----------	----------

(Proposed PZ WASATCH-MESA VERDE)

43-047-50590	NBU 920-14H	Sec 14 T09S R20E 1562 FNL 0500 FEL
43-047-50589	NBU 920-14G	Sec 14 T09S R20E 2444 FNL 1947 FEL
43-047-50591	NBU 921-1901CS	Sec 19 T09S R21E 1078 FSL 1614 FEL BHL Sec 19 T09S R21E 0897 FSL 1974 FEL
43-047-50592	NBU 921-1904BS	Sec 19 T09S R21E 1079 FSL 1594 FEL BHL Sec 19 T09S R21E 0540 FSL 1974 FEL
43-047-50593	NBU 921-19P4BS	Sec 19 T09S R21E 1082 FSL 1554 FEL BHL Sec 19 T09S R21E 0621 FSL 0654 FEL
43-047-50594	NBU 921-19P4CS	Sec 19 T09S R21E 1080 FSL 1574 FEL BHL Sec 19 T09S R21E 0254 FSL 0654 FEL
43-047-50595	NBU 921-20B3CS	Sec 20 T09S R21E 0957 FNL 1312 FWL BHL Sec 20 T09S R21E 1144 FNL 2612 FEL
43-047-50596	NBU 921-20D1CS	Sec 20 T09S R21E 0961 FNL 1272 FWL BHL Sec 20 T09S R21E 0346 FNL 0720 FWL

Page 2

43-047-50597 NBU 921-20D4BS Sec 20 T09S R21E 0963 FNL 1252 FWL  
BHL Sec 20 T09S R21E 0798 FNL 0698 FWL

43-047-50598 NBU 921-20D4CS Sec 20 T09S R21E 0959 FNL 1292 FWL  
BHL Sec 20 T09S R21E 1306 FNL 0770 FWL

43-047-50599 NBU 921-20I4CS Sec 20 T09S R21E 1873 FSL 0843 FEL  
BHL Sec 20 T09S R21E 1507 FSL 0527 FEL

43-047-50600 NBU 920-20J4BS Sec 20 T09S R21E 1910 FSL 0891 FEL  
BHL Sec 20 T09S R21E 1734 FSL 1839 FEL

43-047-50601 NBU 921-20P1BS Sec 20 T09S R21E 1885 FSL 0859 FEL  
BHL Sec 20 T09S R21E 1140 FSL 0538 FEL

This office has no objection to permitting the wells at this time.

/s/ Michael L. Coulthard

bcc: File - Natural Buttes Unit  
Division of Oil Gas and Mining  
Central Files  
Agr. Sec. Chron  
Fluid Chron

MCoulthard:mc:7-24-09



# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 7/22/2009

**API NO. ASSIGNED:** 43047505980000

**WELL NAME:** NBU 921-20D4CS

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 720 929-6156

**CONTACT:** Danielle Piernot

**PROPOSED LOCATION:** NWNW 20 090S 210E

**Permit Tech Review:** ☒

**SURFACE:** 0959 FNL 1292 FWL

**Engineering Review:** ☒

**BOTTOM:** 1306 FNL 0770 FWL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 40.02610

**LONGITUDE:** -109.57967

**UTM SURF EASTINGS:** 621198.00

**NORTHINGS:** 4431410.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 1 - Federal

**LEASE NUMBER:** UTU 0575

**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE

**SURFACE OWNER:** 2 - Indian

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** FEDERAL - WYB000291

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** Permit #43-8496

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☒ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☒ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☒ **R649-3-11. Directional Drill**

**Comments:** Presite Completed

**Stipulations:**  
1 - Exception Location - dmason  
3 - Commingle - ddoucet  
4 - Federal Approval - dmason  
15 - Directional - dmason  
17 - Oil Shale 190-5(b) - dmason



JON M. HUNTSMAN, JR.  
*Governor*

GARY R. HERBERT  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 921-20D4CS  
**API Well Number:** 43047505980000  
**Lease Number:** UTU 0575  
**Surface Owner:** INDIAN  
**Approval Date:** 8/10/2009

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**Exception Location:**

Appropriate information has been submitted to DOGM and administrative approval of the requested exception location is hereby granted.

**Commingling:**

In accordance with Cause No. 173-14 commingling the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels at 801-538-5284 (please leave a voicemail message if not available)

OR

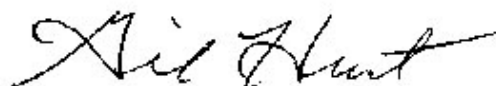
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**

A handwritten signature in black ink, appearing to read "Gil Hunt", with a stylized, flowing script.

Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0959 FNL 1292 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 20 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505980000			
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 9/12/2009  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: _____         </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: _____
<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: _____			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests to re-route the proposed access road and pipeline for this well in order to avoid cactus plants. Please see the attached revised survey plats and SUPO for additional details. All other information remains the same. Please contact the undersigned with any questions and/or comments. Thank you.					
<b>Accepted by the</b> <b>Utah Division of</b> <b>Oil, Gas and Mining</b> <b>FOR RECORD ONLY</b> September 09, 2009					
<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst			
<b>SIGNATURE</b> N/A	<b>DATE</b> 9/8/2009				

**NBU 921-20B3CS**

Surface: 957' FNL 1,312' FWL (NW/4NW/4)  
BHL: 1,144' FNL 2,612' FEL (NW/4NE/4)

**NBU 921-20D1CS**

Surface: 961' FNL 1,272' FWL (NW/4NW/4)  
BHL: 346' FNL 720' FWL (NW/4NW/4)

**NBU 921-20D4BS**

Surface: 963' FNL 1,252' FWL (NW/4NW/4)  
BHL: 798' FNL 698' FWL (NW/4NW/4)

**NBU 921-20D4CS**

Surface: 959' FNL 1,292' FWL (NW/4NW/4)  
BHL: 1,306' FNL 770' FWL (NW/4NW/4)

Pad: NBU 921-20D  
Sec. 20 T9S R21E

Uintah, Utah  
Mineral Lease: UTU 0575

Surface Owner: Ute Indian Tribe

**ONSHORE ORDER NO. 1**

***MULTI-POINT SURFACE USE & OPERATIONS PLAN  
SUBMITTED WITH SITE-SPECIFIC INFORMATION***

This Application for Permit to Drill (APD) is filed under the Notice of Staking (NOS) process as stated in Onshore Order No. 1 (OSO #1) and supporting Bureau of Land Management (BLM) and Bureau of Indian Affairs (BIA) documents. An NOS was submitted showing the surface locations in NW/4 NW/4 of Section 20 T9S R21E.

This Surface Use Plan of Operations (SUPO) or 13-point plan provides the site-specific information for the above-referenced wells. This information is to be incorporated by reference into the Master Development Plan (MDP) for Kerr-McGee Oil & Gas Onshore LP (Kerr-McGee). The MDP is available upon request from the BIA-Ft Duchesne Office.

An on-site meeting was held on June 24, 2009. Present were:

- Verlyn Pindell and Dave Gordon – BLM;
- Bucky Secakuku – BIA
- Kolby Kay and Mitch Batty – Timberline Surveying, Inc.
- Nick Hall – Grasslands Consulting, Inc.
- Scott Carson – Smiling Lake Consulting
- Keith Montgomery – Montgomery Archaeological Consultants, Inc.
- Tony Kazeck, Jeff Samuels, Raleen White, David Liddell, and Hal Blanchard – Kerr-McGee

**Directional Drilling:**

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, this well will be directionally drilled in order to access portions of our lease which are otherwise inaccessible due to topography.

**1. Existing Roads:**

- A) Refer to Topo Map A for directions to the location.
- B) Refer to Topo Maps A and B for location of access roads within a 2-mile radius.

**2. Planned Access Roads:**

*See MDP for additional details on road construction.*

Approximately  $\pm 1,945'$  ( $\pm 0.37$  miles) of new access road is proposed. Another  $\pm 430'$  ( $\pm 0.08$  miles) of new access road is proposed for concurrent access to the NBU 921-20F proposed well. Please refer to the attached Topo Map B. No pipelines will be crossed with the new construction.

*Existence of pipelines; maximum grade; turnouts; major cut and fills, culverts, or bridges; gates, cattle guards, fence cuts, or modifications to existing facilities were determined at the on-site and are typically shown on the attached Exhibits and Topo maps.*

Per the onsite meeting, Kerr-McGee will construct a low-water crossing on the Cottonwood Wash for the access road (100-year flood standards).

**3. Location of Existing Wells Within a 1-Mile Radius:**

Please refer to Topo Map C.

**4. Location of Existing and Proposed Facilities:**

*See MDP for additional details on Existing and Proposed Facilities.*

*The following guidelines will apply if the well is productive.*

**Approximately  $\pm 2,240'$  ( $\pm 0.42$  miles) of pipeline is proposed. Refer to Topo D for the existing pipeline.** Appropriate surface use agreements have been or will be obtained from the Ute Indian Tribe. Pipeline segments will be welded or zaplocked together on disturbed areas in or near the location, whenever possible, and dragged into place.

Per the onsite meeting, the following items were requested:

- The equipment (new and old infrastructure) will be painted Shadow Grey.
- A 404 permit will be obtained from the Core of Engineers to bury the proposed pipeline, as well as the existing pipeline, under the Cottonwood Wash.

**5. Location and Type of Water Supply:**

*See MDP for additional details on Location and Type of Water Supply.*

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.

- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

No water well is to be drilled on this lease.

**6. Source of Construction Materials:**

*See MDP for additional details on Source of Construction Materials.*

**7. Methods of Handling Waste Materials:**

*See MDP for additional details on Methods of Handling Waste Materials.*

Any produced water from the proposed well will be contained in a water tank and will then be hauled by truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E

NBU #159 in Sec. 35 T9S R21E

Ace Oilfield in Sec. 2 T6S R20E

MC&MC in Sec. 12 T6S R19E

Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

**8. Ancillary Facilities:**

*See MDP for additional details on Ancillary Facilities.*

None are anticipated.

**9. Well Site Layout: (See Location Layout Diagram)**

*See MDP for additional details on Well Site Layout.*

All pits will be fenced according to the following minimum standards:

- Net wire (39-inch) will be used with at least one strand of barbed wire on top of the net wire. Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.
- The net wire shall be no more than two inches above the ground. The barbed wire shall be three inches over the net wire. Total height of the fence shall be at least 42 inches.
- Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times.
- Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.
- All wire shall be stretched, by using a stretching device, before it is attached to corner posts.

**10. Plans for Reclamation of the Surface:**

*See MDP for additional details on Plans for Reclamation of the Surface.*

Kerr-McGee shall call the BIA for the seed mixture prior to starting interim and/or final reclamation actions.



**11. Surface/Mineral Ownership:**

The well pad and access road are located on lands owned by:

Ute Indian Tribe  
PO Box 70  
Fort Duchesne, Utah 84026  
435-722-5141

The mineral ownership is listed below:

United States of America  
Bureau of Land Management  
170 South 500 East  
Vernal, UT 84078  
435-781-4400

**12. Other Information:**

*See MDP for additional details on Other Information.*

Per the onsite meeting, the following items were requested:

- A raptor survey will be completed if the wells are not constructed during 2009. This survey is to be conducted on the raptor nest east of the location.
- Archeological monitoring during construction.

**13. Lessee's or Operators' Representative & Certification:**

Kathy Schneebeck Dulnoan  
Regulatory Analyst  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720) 929-6007

Tommy Thompson  
General Manager, Drilling  
Kerr-McGee Oil & Gas Onshore LP  
PO Box 173779  
Denver, CO 80217-3779  
(720-929-6724)


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

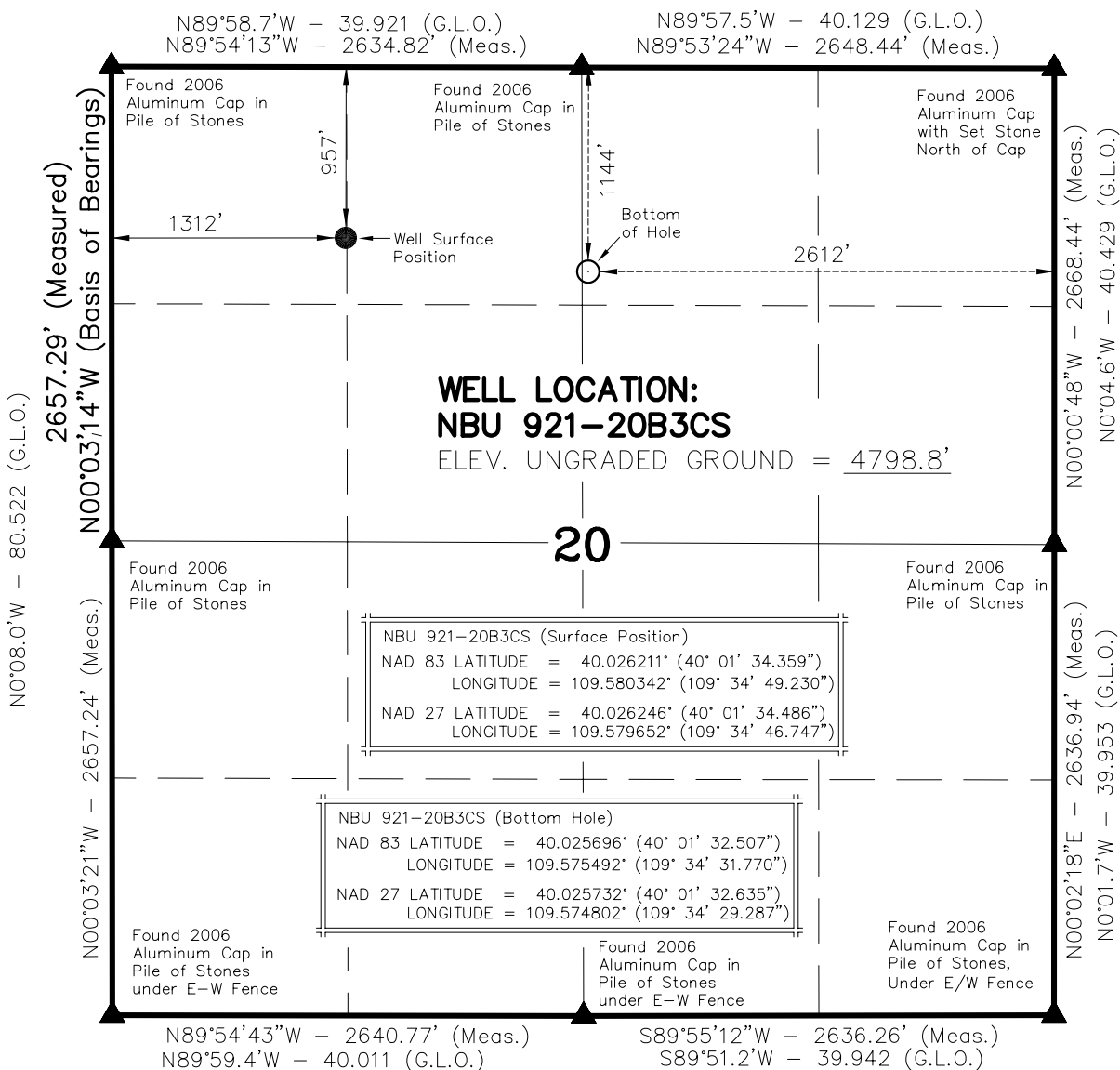
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

  
Kathy Schneebeck Dulnoan

September 8, 2009  
Date

# T9S, R21E, S.L.B.&M.



## NOTES:

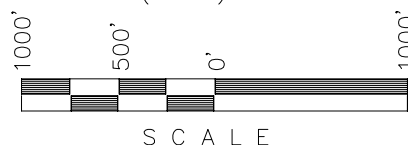
- ▲ = Section Corners Located
- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- The Bottom of hole bears S82°04'22"E 1371.52' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

**Kerr-McGee**  
**Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202

**NBU 921-20B3CS**  
**WELL PLAT**  
1144' FNL, 2612' FEL (Bottom Hole)  
NW  $\frac{1}{4}$  NE  $\frac{1}{4}$  OF SECTION 20, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



## SURVEYOR'S CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF AGRICULTURAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION No. 36225  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.	SHEET <b>1</b> OF 13
DATE DRAWN: 02-25-09	DRAWN BY: K.K.O.	
SCALE: 1" = 1000'	Date Last Revised: 02-27-09	

**RECEIVED** September 08, 2009

# T9S, R21E, S.L.B.&M.

Found 2006  
Aluminum Cap in  
Pile of Stones

N89°58.7'W - 39.921 (G.L.O.)  
N89°54'13"W - 2634.82' (Meas.)

N89°57.5'W - 40.129 (G.L.O.)  
N89°53'24"W - 2648.44' (Meas.)

Found 2006  
Aluminum Cap in  
Pile of Stones

Found 2006  
Aluminum Cap  
with Set Stone  
North of Cap

2657.29' (Measured)  
N00°03'14"W (Basis of Bearings)

N0°08.0'W - 80.522 (G.L.O.)

N00°03'21"W - 2657.24' (Meas.)

Found 2006  
Aluminum Cap in  
Pile of Stones

Found 2006  
Aluminum Cap in  
Pile of Stones

N00°00'48"W - 2668.44' (Meas.)  
N0°04.6'W - 40.429 (G.L.O.)

N00°02'18"E - 2636.94' (Meas.)  
N0°01.7'W - 39.953 (G.L.O.)

**WELL LOCATION:  
NBU 921-20D4CS**

ELEV. UNGRADED GROUND = 4796.4'

20

NBU 921-20D4CS (Surface Position)  
NAD 83 LATITUDE = 40.026205° (40° 01' 34.338")  
LONGITUDE = 109.580413° (109° 34' 49.487")  
NAD 27 LATITUDE = 40.026240° (40° 01' 34.466")  
LONGITUDE = 109.579723° (109° 34' 47.003")

NBU 921-20D4CS (Bottom Hole)  
NAD 83 LATITUDE = 40.025254° (40° 01' 30.914")  
LONGITUDE = 109.582274° (109° 34' 56.188")  
NAD 27 LATITUDE = 40.025289° (40° 01' 31.041")  
LONGITUDE = 109.581585° (109° 34' 53.704")

Found 2006  
Aluminum Cap in  
Pile of Stones  
under E-W Fence

Found 2006  
Aluminum Cap in  
Pile of Stones  
under E-W Fence

Found 2006  
Aluminum Cap in  
Pile of Stones,  
Under E/W Fence

N89°54'43"W - 2640.77' (Meas.)  
N89°59.4'W - 40.011 (G.L.O.)

S89°55'12"W - 2636.26' (Meas.)  
S89°51.2'W - 39.942 (G.L.O.)

## NOTES:

- ▲ = Section Corners Located
- 1. Well footages are measured at right angles to the Section Lines.
- 2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
- 3. The Bottom of hole bears S56°27'54"W 626.13' from the Surface Position.
- 4. Bearings are based on Global Positioning Satellite observations.
- 5. Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

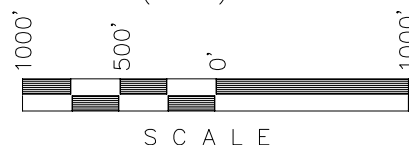
**Kerr-McGee  
Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202

**NBU 921-20D4CS  
WELL PLAT**

1306' FNL, 770' FWL (Bottom Hole)  
NW ¼ NW ¼ OF SECTION 20, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



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REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

**TIMBERLINE**

(435) 789-1365

**ENGINEERING & LAND SURVEYING, INC.**  
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.	SHEET <b>2</b> OF 13
DATE DRAWN: 02-25-09	DRAWN BY: K.K.O.	
SCALE: 1" = 1000'	Date Last Revised:	

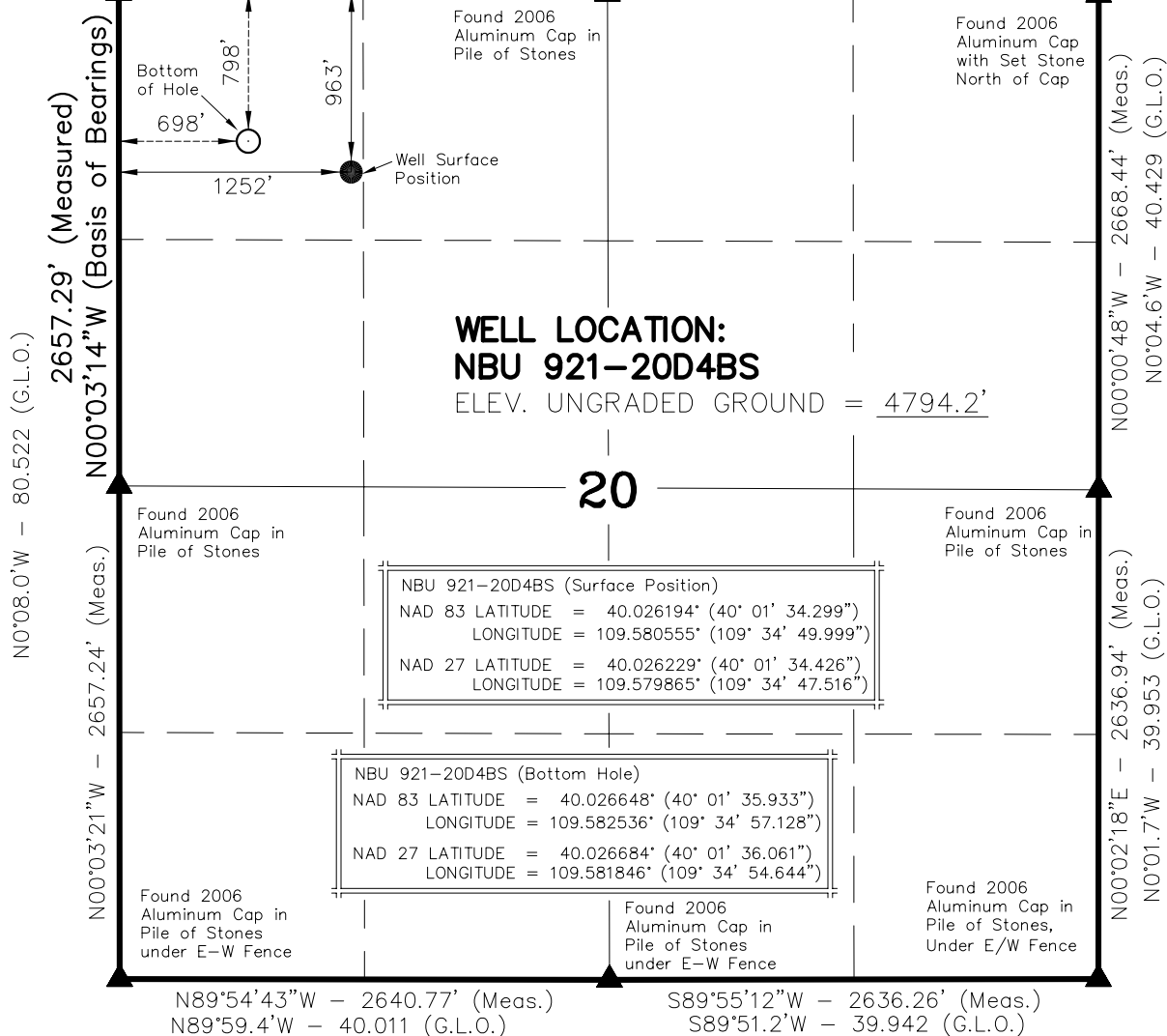
**RECEIVED** September 08, 2009

## RECEIVED September 08, 2009

Found 2006  
Aluminum Cap in  
Pile of Stones ▲

N89°58.7'W - 39.921 (G.L.O.)  
N89°54'13"W - 2634.82' (Meas.)

N89°57.5'W - 40.129 (G.L.O.)  
N89°53'24"W - 2648.44' (Meas.)



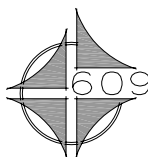
▲ = Section Corners Located

1. Well footages are measured at right angles to the Section Lines.
2. G.L.O. distances are shown in feet or chains. 1 chain = 66 feet.
3. The Bottom of hole bears N73°19'00"W 578.88' from the Surface Position.
4. Bearings are based on Global Positioning Satellite observations.
5. Basis of elevation is Tri-Sta "Two Water" located in the NW  $\frac{1}{4}$  of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

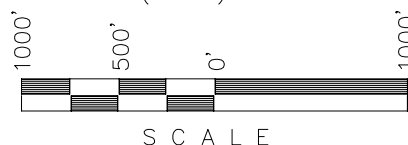
Kerr-McGee  
Oil & Gas Onshore, LP

1099 18th Street – Denver, Colorado 80202

NBU 921-20D4BS  
WELL PLAT  
798' FNL, 698' FWL (Bottom Hole)  
NW  $\frac{1}{4}$  NW  $\frac{1}{4}$  OF SECTION 20, T9S, R21E,  
S.L.B.&M. UINTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182



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MADE BY ME OR UNDER MY SUPERVISION AND THAT  
THE SAME ARE TRUE AND CORRECT TO THE BEST OF  
MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR  
REGISTRATION No. 362251  
STATE OF UTAH

## TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.

209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-16-09	SURVEYED BY: M.S.B.	SHEET <b>4</b> OF 13
DATE DRAWN: 02-25-09	DRAWN BY: K.K.O.	
SCALE: 1" = 1000'	Date Last Revised: 02-27-09	

RECEIVED September 08, 2009



# WELL PAD INTERFERENCE PLAT

DIRECTIONAL PAD – NBU 921-20B3CS,  
NBU 921-20D4CS, NBU 921-20D1CS & NBU 921-20D4BS

## BOTTOM HOLE FOOTAGES

NBU 921-20B3CS  
1144' FNL, 2612' FEL

NBU 921-20D4CS  
1306' FNL, 770' FWL

NBU 921-20D1CS  
346' FNL, 720' FWL

NBU 921-20D4BS  
798' FNL, 698' FWL

## SURFACE POSITION FOOTAGES:

NBU 921-20B3CS  
957' FNL, 1312' FWL

NBU 921-20D4CS  
959' FNL, 1292' FWL

NBU 921-20D1CS  
961' FNL, 1272' FWL

NBU 921-20D4BS  
963' FNL, 1252' FWL

Natural Cotton 11-20 (Dry Hole Marker)  
1001' FNL, 1019' FWL

## RELATIVE COORDINATES

From Surface Position to Bottom Hole

WELL	NORTH	EAST
921-20B3CS	-189'	1358'
921-20D4CS	-346'	-522'
921-20D1CS	616'	-553'
921-20D4BS	166'	-555'

$N41^{\circ}53'47''W = 827.88'$   
(To Bottom Hole)  
 $Az = 318.10361^{\circ}$

$N73^{\circ}19'00''W = 578.88'$   
(To Bottom Hole)  
 $Az = 286.68333^{\circ}$

$S56^{\circ}27'54''W = 626.13'$   
(To Bottom Hole)  
 $Az = 236.46500^{\circ}$

$N84^{\circ}14'18''E$   
 $Az = 84.23833^{\circ}$   
 $S82^{\circ}04'22''E = 1371.52'$   
(To Bottom Hole)  
 $Az = 97.92722^{\circ}$

BASIS OF BEARINGS IS THE WEST  
LINE OF THE NW 1/4 OF SECTION 20,  
T9S, R21E, S.L.B.&M. WHICH IS TAKEN  
FROM GLOBAL POSITIONING SATELLITE  
OBSERVATIONS TO BEAR  $N00^{\circ}03'14''W$ . D.H.M. = Dry Hole Marker

## LATITUDE & LONGITUDE

Surface Position – (NAD 83)

WELL	N. LATITUDE	W. LONGITUDE
921-20B3CS	40°01'34.359" 40.026211"	109°34'49.230" 109.580342"
921-20D4CS	40°01'34.338" 40.026205"	109°34'49.487" 109.580413"
921-20D1CS	40°01'34.318" 40.026199"	109°34'49.743" 109.580484"
921-20D4BS	40°01'34.299" 40.026194"	109°34'49.999" 109.580555"
Dry Hole Marker Natural Cotton 11-20	40°01'33.925" 40.026090"	109°34'53.002" 109.581390"

## LATITUDE & LONGITUDE

Surface Position – (NAD 27)

WELL	N. LATITUDE	W. LONGITUDE
921-20B3CS	40°01'34.486" 40.026246"	109°34'46.747" 109.579652"
921-20D4CS	40°01'34.466" 40.026240"	109°34'47.003" 109.579723"
921-20D1CS	40°01'34.445" 40.026235"	109°34'47.260" 109.579794"
921-20D4BS	40°01'34.426" 40.026229"	109°34'47.516" 109.579865"
Dry Hole Marker Natural Cotton 11-20	40°01'34.053" 40.026126"	109°34'50.519" 109.580700"

## LATITUDE & LONGITUDE

Bottom Hole – (NAD 27)

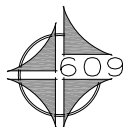
WELL	N. LATITUDE	W. LONGITUDE
921-20B3CS	40°01'32.635" 40.025732"	109°34'29.287" 109.574802"
921-20D4CS	40°01'31.041" 40.025289"	109°34'53.704" 109.581585"
921-20D1CS	40°01'40.526" 40.027924"	109°34'54.375" 109.581771"
921-20D4BS	40°01'36.061" 40.026684"	109°34'54.644" 109.581846"

Kerr-McGee

Oil & Gas Onshore, LP

1099 18th Street – Denver, Colorado 80202

NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS  
LOCATED IN SECTION 20, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

DATE SURVEYED: 01-16-09

SURVEYED BY: M.S.B.

DATE DRAWN: 02-26-09

DRAWN BY: K.K.O.

REVISED:

Timberline

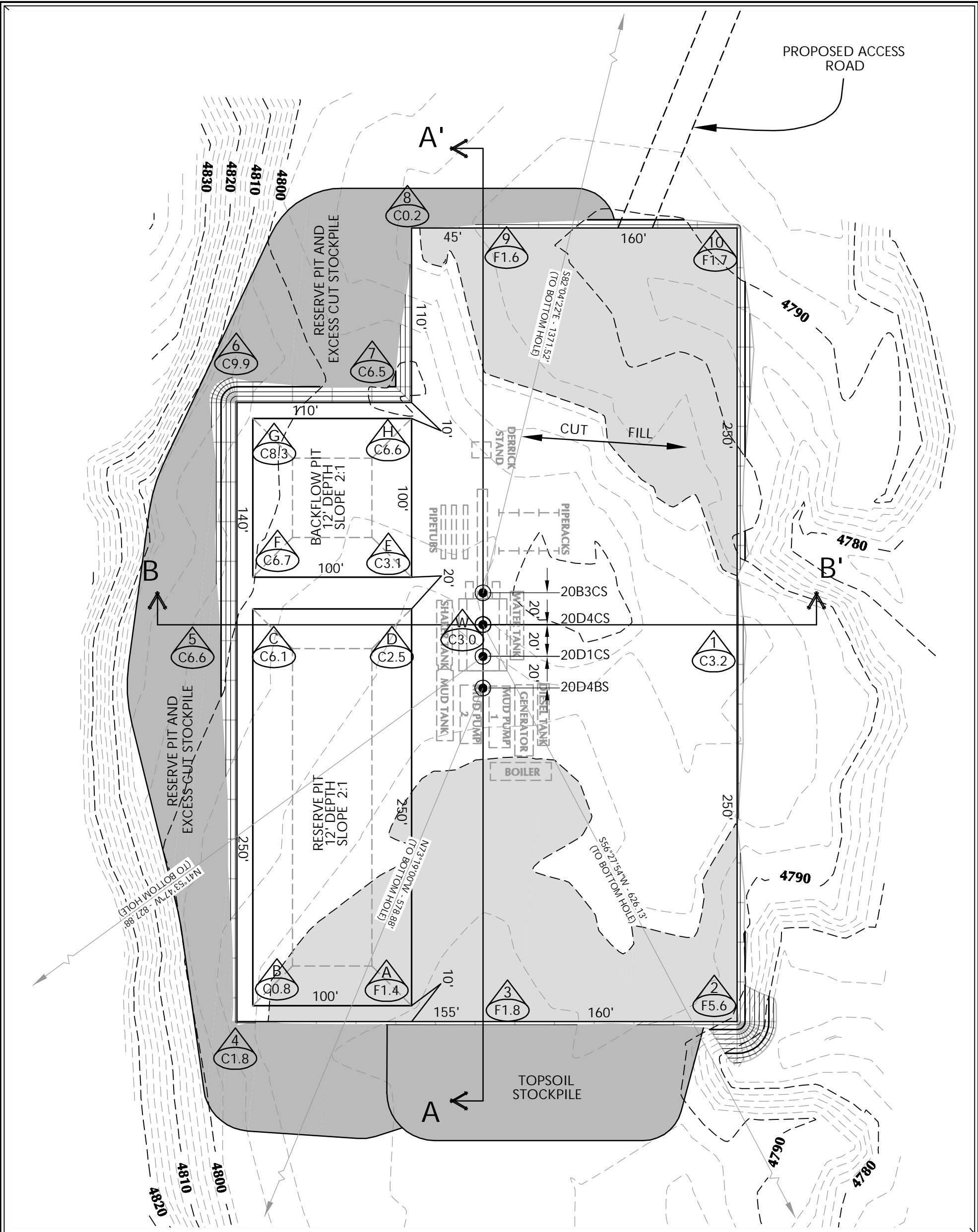
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

(435) 789-1365

SHEET  
5  
OF 13

RECEIVED September 08, 2009





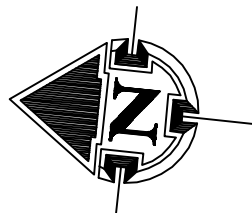
WELL PAD NBU 921-20D QUANTITIES

EXISTING GRADE @ CENTER OF WELL PAD = 4796.4'  
FINISHED GRADE ELEVATION = 4793.4'  
CUT SLOPES = 1.5:1  
FILL SLOPES = 1.5:1

TOTAL CUT FOR WELL PAD = 9,912 C.Y.  
TOTAL FILL FOR WELL PAD = 4,910 C.Y.  
TOPSOIL @ 6" DEPTH = 2,886 C.Y.  
EXCESS MATERIAL = 5,002 C.Y.  
TOTAL DISTURBANCE = 3.58 ACRES  
SHRINKAGE FACTOR = 1.10  
SWELL FACTOR = 1.00  
RESERVE PIT CAPACITY (2' OF FREEBOARD)  
+/- 28,730 BARRELS  
RESERVE PIT VOLUME  
+/- 7,720 CY  
BACKFLOW PIT CAPACITY (2' OF FREEBOARD)  
+/- 9,490 BARRELS  
BACKFLOW PIT VOLUME  
+/- 2,660 CY

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)



HORIZONTAL 0 30 60 1" = 60'  
2' CONTOURS

KERR-MCGEE OIL & GAS  
ONSHORE L.P.

1099 18th Street - Denver, Colorado 80202

WELL PAD - LOCATION LAYOUT  
NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS  
LOCATED IN SECTION 20, T.9S., R.21E.  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=60'

Date: 3/17/09

SHEET NO:

REVISED:

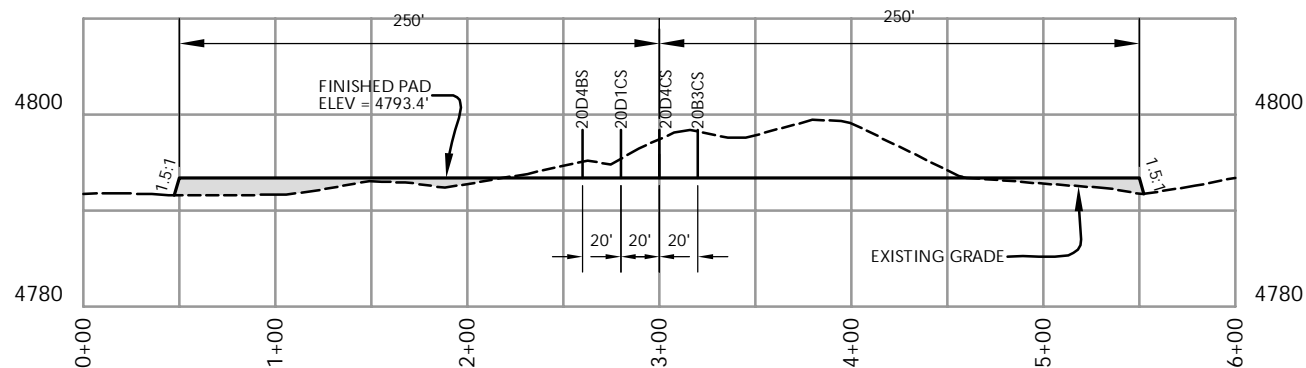
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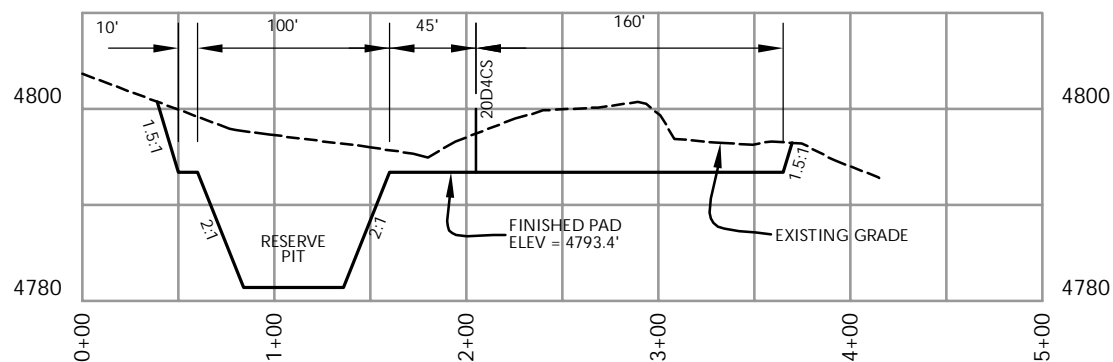
6 OF 13

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

RECEIVED September 08, 2009



**CROSS SECTION A-A'**



**CROSS SECTION B-B'**

NOTE: CROSS SECTION B-B' DEPICTS  
MAXIMUM RESERVE PIT DEPTH.

KERR-MCGEE OIL & GAS  
ONSHORE L.P.  
1099 18th Street - Denver, Colorado 80202

WELL PAD - CROSS SECTIONS  
NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS  
LOCATED IN SECTION 20, T.9S., R.21E.  
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

Scale: 1"=100'

Date: 3/17/09

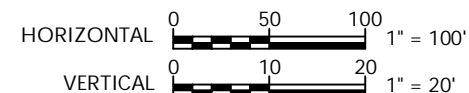
SHEET NO:

REVISED:

RAW  
9/01/09

7

7 OF 13



**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
38 WEST 100 NORTH VERNAL, UTAH 84078

RECEIVED September 08, 2009



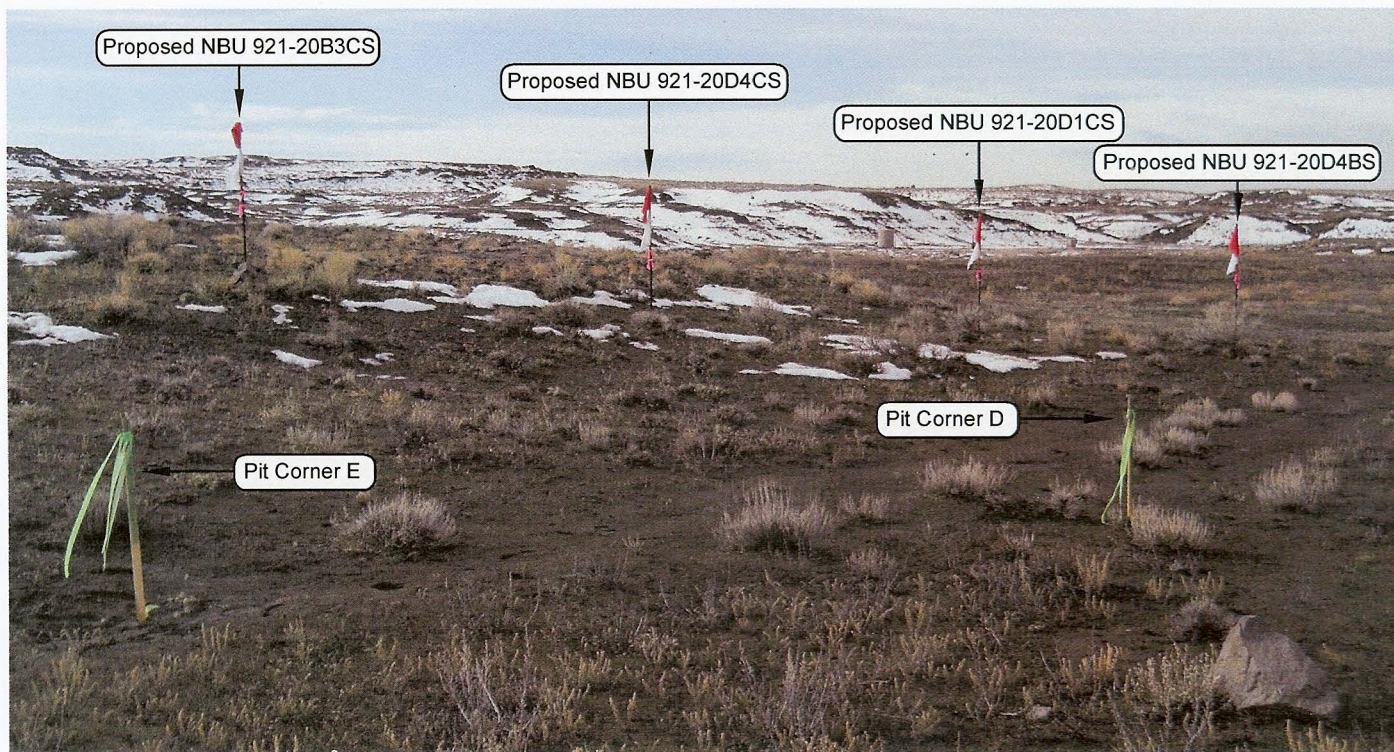


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKES

CAMERA ANGLE: SOUTHERLY

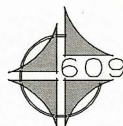


PHOTO VIEW: FROM BEGINNING OF PROPOSED ROAD

CAMERA ANGLE: NORTHEASTERLY

**Kerr-McGee  
Oil & Gas Onshore, LP**

1099 18th Street - Denver, Colorado 80202



CONSULTING, LLC  
371 Coffeen Avenue  
Sheridan WY 82801  
Phone 307-674-0609  
Fax 307-674-0182

NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS  
LOCATED IN SECTION 20, T9S, R21E,  
S.L.B.&M. UTAH COUNTY, UTAH.

**LOCATION PHOTOS**

TAKEN BY: M.S.B.

DRAWN BY: E.M.S.

DATE TAKEN: 01-16-09

DATE DRAWN: 02-26-09

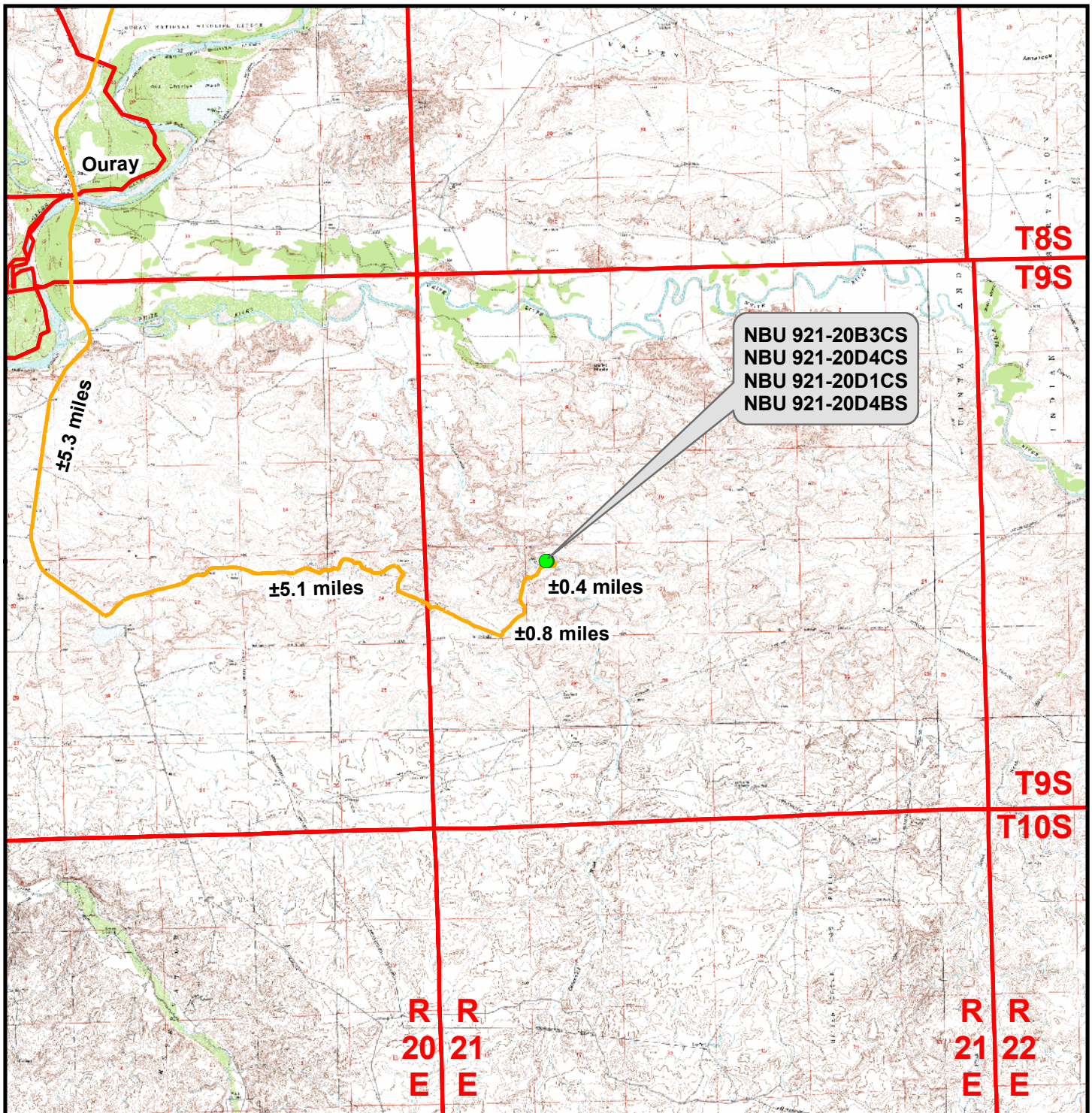
REVISED:

**Timberline** (435) 789-1365  
Engineering & Land Surveying, Inc.  
209 NORTH 300 WEST VERNAL, UTAH 84078

**SHEET  
8  
OF 13**

**RECEIVED** September 08, 2009





### Legend

- Proposed Well Location
- Access Route - Proposed

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS**  
**Topo A**

**Located In Section 20, T9S, R21E  
S.L.B.&M., Uintah County, Utah**



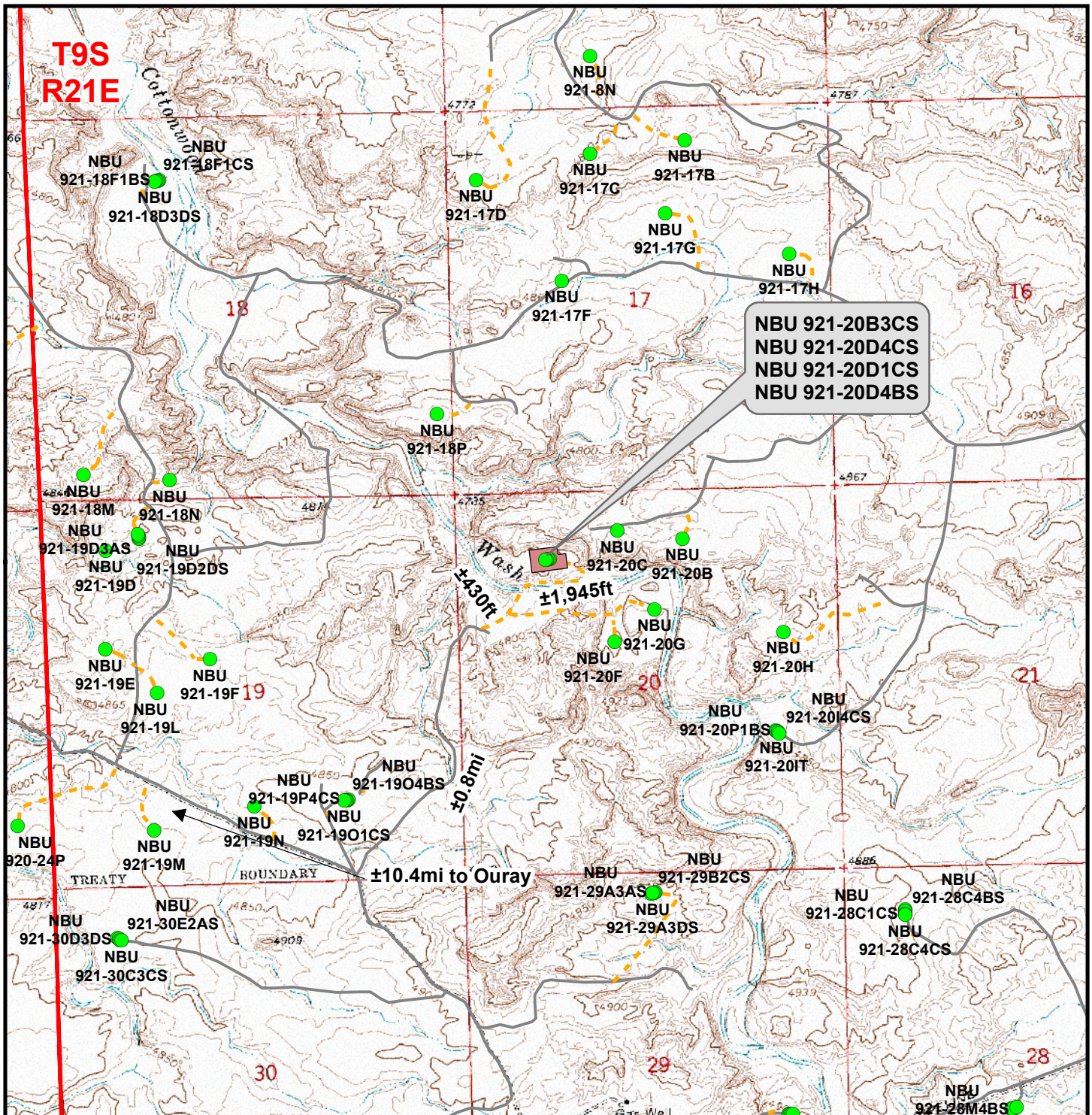
Scale: 1:100,000	NAD83 USP Central
Drawn: JELO	Date: 24 Feb 2009
Revised: TL	Date: 31 Aug 2009

Sheet No:

**9** 9 of 13

**RECEIVED** September 08, 2009





### Legend

- Well - Proposed
- Well Pad
- - - Road - Proposed
- Road - Existing

Total Proposed Road Length: ±1,945ft

Kerr-McGee Oil & Gas Onshore, LP  
1099 18th Street, Denver, Colorado 80202

**NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS**  
**Topo B**  
**Located In Section 20, T9S, R21E**  
**S.L.B.&M., Uintah County, Utah**

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182

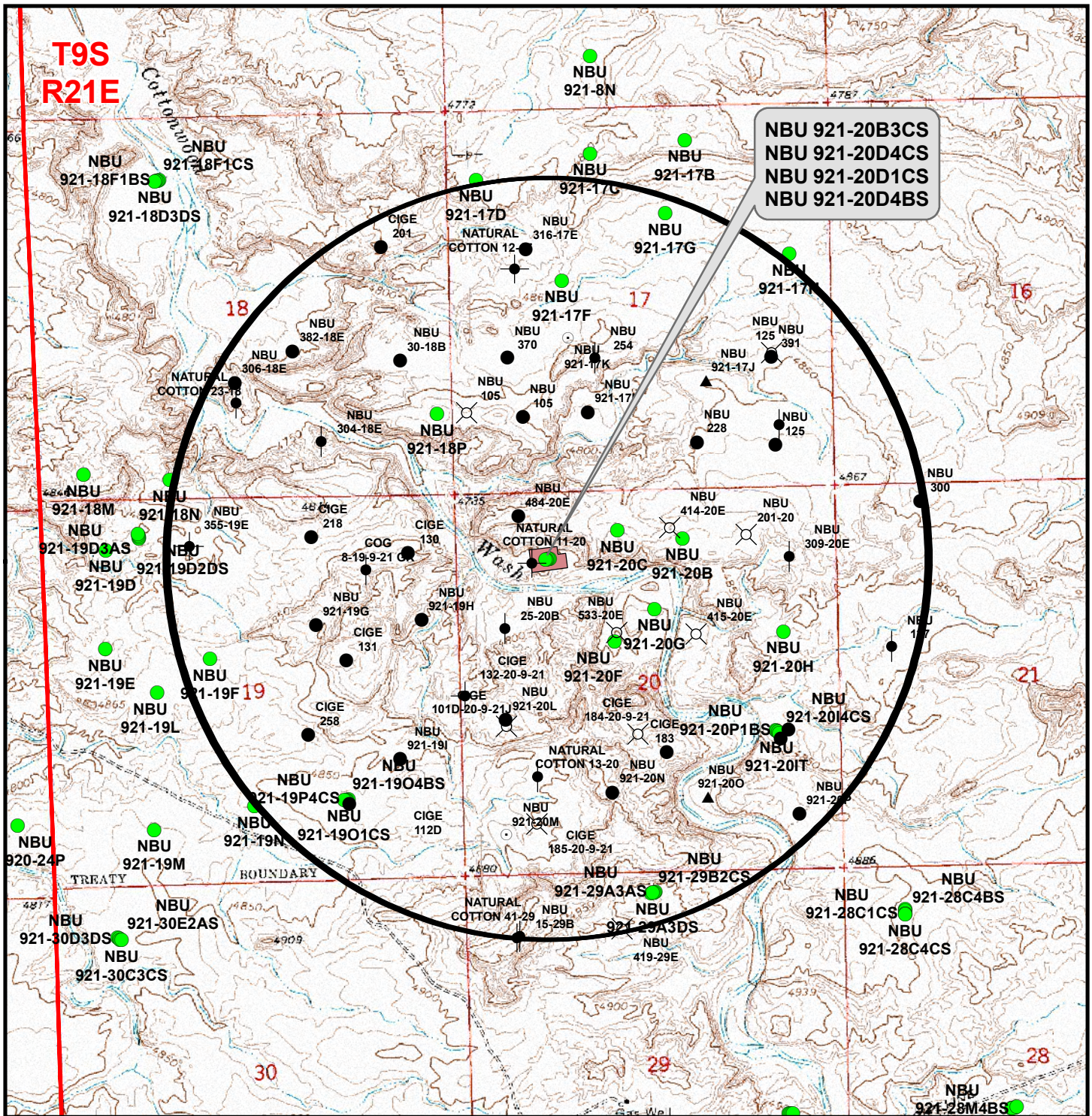


Scale: 1" = 2,000ft  
NAD83 USP Central  
Drawn: JELO  
Revised: TL  
Date: 24 Feb 2009  
Date: 31 Aug 2009

Sheet No:  
**10** 10 of 13

**RECEIVED** September 08, 2009





### Legend

- |  |   |   |  |  |
|--|---|---|--|--|
| <span style="color: green;">●</span> Well - Proposed   | <span style="border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well - 1 Mile Radius | <span style="color: black;">●</span> Producing                                      | <span style="color: grey;">✕</span> Location Abandoned     | <span style="color: black;">●</span> Shut-In |
| <span style="background-color: #d3d3d3; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span> Well Pad |   | <span style="color: black;">▲</span> Approved permit (APD); not yet spudded         | <span style="color: black;">●</span> Temporarily-Abandoned |  |
|  |   | <span style="color: black;">○</span> Spudded (Drilling commenced: Not yet complete) | <span style="color: black;">●</span> Plugged and Abandoned |  |

**Kerr-McGee Oil & Gas Onshore, LP**  
1099 18th Street, Denver, Colorado 80202

**NBU 921-20B3CS, NBU 921-20D4CS,  
NBU 921-20D1CS & NBU 921-20D4BS**  
Topo C  
Located In Section 20, T9S, R21E  
S.L.B.&M., Uintah County, Utah

**609**  
**CONSULTING, LLC**  
371 Coffeen Avenue  
Sheridan, WY 82801  
Phone (307) 674-0609  
Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: JELO	Date: 24 Feb 2009	<b>11</b>
Revised: TL	Date: 31 Aug 2009	

11 of 13







**Kerr-McGee Oil & Gas Onshore, LP**  
**NBU 921-20B3CS NBU 921-20D4CS NBU 921-20D1CS NBU 921-20D4BS**  
**Section 20, T9S, R21E, S.L.B.&M.**

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 13.9 MILES TO THE JUNCTION OF STATE HIGHWAY 88. EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION ALONG STATE HIGHWAY 88 APPROXIMATELY 16.8 MILES TO OURAY, UTAH. FROM OURAY, PROCEED IN A SOUTHERLY DIRECTION ALONG THE SEEP RIDGE ROAD (COUNTY B ROAD 2810) APPROXIMATELY 5.3 MILES TO THE INTERSECTION OF A SERVICE ROAD TO THE EAST. EXIT LEFT AND PROCEED IN A NORTHEASTERLY THEN SOUTHEASTERLY DIRECTION ALONG THE SERVICE ROAD APPROXIMATELY 5.1 MILES TO A SECOND SERVICE ROAD TO THE NORTHEAST. EXIT LEFT AND PROCEED IN A NORTH BY NORTHEAST DIRECTION ALONG THE SECOND SERVICE ROAD APPROXIMATELY 0.8 MILES TO THE TO THE PROPOSED ACCESS ROAD. FOLLOW ROAD FLAGS IN A NORTHEASTERLY, THEN EASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2,370 FEET TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE WELL LOCATION IS APPROXIMATELY 42.3 MILES IN A SOUTHERLY DIRECTION.

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0959 FNL 1292 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 20 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505980000
<b>PHONE NUMBER:</b> 720 929-6007 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 8/9/2010  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> <b>APD EXTENSION</b> OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 1.2em; vertical-align: middle;"></span>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  
 Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.

Approved by the  
Utah Division of  
Oil, Gas and Mining

Date: August 09, 2010

By:

<b>NAME (PLEASE PRINT)</b> Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst
<b>SIGNATURE</b> N/A		<b>DATE</b> 8/9/2010



## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047505980000

**API:** 43047505980000

**Well Name:** NBU 921-20D4CS

**Location:** 0959 FNL 1292 FWL QTR NWNW SEC 20 TWNP 090S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 8/10/2009

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Approved by the  
Utah Division of  
Oil, Gas and Mining**

**Signature:** Danielle Piernot

**Date:** 8/9/2010

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date:** August 09, 2010

**By:** 

**RECEIVED** August 09, 2010

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RECEIVED

JUL 22 2009

FORM APPROVED  
OMB No. 1004-0136  
Expires July 31, 2010

APPLICATION FOR PERMIT TO DRILL OR REENTER **BLM**

1a. Type of Work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. UTU0575
1b. Type of Well: <input type="checkbox"/> Oil Well <input checked="" type="checkbox"/> Gas Well <input type="checkbox"/> Other <input type="checkbox"/> Single Zone <input checked="" type="checkbox"/> Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator KERRMCGEE OIL&GAS ONSHORE LP Contact: DANIELLE E PIERNOT Email: Danielle.Piernot@anadarko.com		7. If Unit or CA Agreement, Name and No. 891008900A
3a. Address PO BOX 173779 DENVER, CO 80202-3779		8. Lease Name and Well No. NBU 921-20D4CS
3b. Phone No. (include area code) Ph: 720-929-6156 Fx: 720-929-7156		9. API Well No. <b>43-047-50598</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface NWNW 959FNL 1292FWL 40.02620 N Lat, 109.58041 W Lon At proposed prod. zone NWNW 1306FNL 770FWL 40.02525 N Lat, 109.58227 W Lon		10. Field and Pool, or Exploratory NATURAL BUTTES
14. Distance in miles and direction from nearest town or post office* APPROXIMATELY 12 MILES SOUTHEAST OF OURAY, UTAH		11. Sec., T., R., M., or Blk. and Survey or Area Sec 20 T9S R21E Mer SLB
15. Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 770 FEET	16. No. of Acres in Lease 1600.00	12. County or Parish UINTAH
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft. APPROXIMATELY 515 FEET	19. Proposed Depth 10400 MD 10310 TVD	13. State UT
21. Elevations (Show whether DF, KB, RT, GL, etc.) 4796 GL	22. Approximate date work will start 08/10/2009	17. Spacing Unit dedicated to this well
		20. BLM/BIA Bond No. on file WYB000291
		23. Estimated duration 60-90 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

- |   |  |
|---|--|
| 1. Well plat certified by a registered surveyor.  | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).    |
| 2. A Drilling Plan.   | 5. Operator certification  |
| 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office). | 6. Such other site specific information and/or plans as may be required by the authorized officer. |

25. Signature (Electronic Submission)	Name (Printed/Typed) DANIELLE E PIERNOT Ph: 720-929-6156	Date 07/22/2009
Title REGULATORY ANALYST		
Approved by (Signature) 	Name (Printed/Typed) Jerry Kenczka	Date APR 26 2011
Title Assistant Field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE	

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Conditions of approval, if any, are attached.

CONDITIONS OF APPROVAL ATTACHED

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Additional Operator Remarks (see next page)

Electronic Submission #72408 verified by the BLM Well Information System  
For KERRMCGEE OIL&GAS ONSHORE LP, sent to the Vernal  
Committed to AFMSS for processing by GAIL JENKINS on 07/27/2009 ()

RECEIVED

MAY 02 2011

DIV. OF OIL, GAS & MINING

NOTICE OF APPROVAL

NOS APD posted 7-27-09

AFMSS#

UDOGM

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

096XJ5474 AE

NONOS



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
VERNAL FIELD OFFICE

170 South 500 East

VERNAL, UT 84078

(435) 781-4400



**CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL**

Company:	Kerr McGee Oil & Gas Onshore	Location:	NWNW, Sec. 20, T9S, R21E
Well No:	NBU 921-20D4CS	Lease No:	UTU-0575
API No:	43-047-50598	Agreement:	Natural Buttes Unit

**OFFICE NUMBER: (435) 781-4400**

**OFFICE FAX NUMBER: (435) 781-3420**

**A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR  
FIELD REPRESENTATIVE TO INSURE COMPLIANCE**

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. **This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.**

**NOTIFICATION REQUIREMENTS**

Location Construction (Notify Environmental Scientist)	- Forty-Eight (48) hours prior to construction of location and access roads.
Location Completion (Notify Environmental Scientist)	- Prior to moving on the drilling rig.
Spud Notice (Notify Petroleum Engineer)	- Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to running casing and cementing all casing strings to: <a href="mailto:ut_vn_opreport@blm.gov">ut_vn_opreport@blm.gov</a> .
BOP & Related Equipment Tests (Notify Supv. Petroleum Tech.)	- Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify Petroleum Engineer)	- Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

***SURFACE USE PROGRAM  
CONDITIONS OF APPROVAL (COAs)***

- All new and replacement internal combustion gas field engines of less than or equal to 300 design-rated horsepower must not emit more than 2 gms of NO<sub>x</sub> per horsepower-hour. This requirement does not apply to gas field engines of less than or equal to 40 design-rated horsepower.
- All and replacement internal combustion gas field engines of greater than 300 design rated horsepower must not emit more than 1.0 gms of NO<sub>x</sub> per horsepower-hour.
- If there is an active Gilsonite mining operation within 2 miles of the well location, operator shall notify the Gilsonite operator at least 48 hours prior to any blasting during construction.
- If paleontological materials are uncovered during construction, the operator is to immediately stop work and contact the Authorized Officer (AO). A determination will be made by the AO as to what mitigation may be necessary for the discovered paleontologic material before construction can continue.
- Paint facilities "Shadow Gray."
- Construct a low-water crossing where the access road crosses Cottonwood Was and apply 100-year floodplain standards.
- Obtain a 404 permit from the Army Corps of Engineers prior to burying the new gathering line and an existing pipeline under Cottonwood Wash.
- Construct the new gathering line and bury the existing pipeline according to the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels.
- Monitoring by a permitted paleontologist during construction operations.
- Monitoring by a permitted archaeologist during the construction process.
- In accordance with the guidelines specified in the Utah BLM Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002 (See Appendix D), a raptor survey shall be conducted prior to construction of the proposed location, pipeline, or access road if construction will take place during raptor nesting season (January 1 through September 30) and conduct its operations according to specifications in the guidelines.
- If project construction operations are not initiated before June 18, 2010, KMG shall conduct additional biological surveys in accordance with the guidelines specified in the USFWS Rare Plant Conservation Measures for Uinta Basin hookless cactus (See Appendix D) and conduct its operation according to its specifications.

**BIA Standard Conditions of Approval:**

- Soil erosion will be mitigated by reseeding all disturbed areas.
- The gathering pipelines will be constructed to lie on the surface. The surface pipelines will not be bladed or cleared of vegetation. Where pipelines are constructed parallel to roads they may be welded on the road and then lifted from the road onto the right-of-way. Where pipelines do not

parallel roads but cross-country between sites, they shall be welded in place at well sites or on access roads and then pulled between stations with a suitable piece of equipment. Traffic will be restricted along these areas so that the pipeline right-of-way will not be used as an access road.

- An open drilling system shall be used, unless otherwise specified in 10.0 Additional Stipulations of this document and in the Application for Permit to Drill. A closed drilling system shall be used in all flood plain areas, and other highly sensitive areas, recommended by the Ute Tribe Technician, BIA, and other agencies involved.
- The reserve pit shall be lined with a synthetic leak proof liner. After the drilling operation is complete, excess fluids shall be removed from the reserve pit and either hauled to an approved disposal site or shall be used to drill other wells. When the fluids are removed the pit shall be backfilled a minimum of 3.0' below the soil surface elevation.
- A closed production system shall be used. This means all produced water and oil field fluid wastes shall be contained in leak proof tanks. These fluids shall be disposed of in either approved injection wells or disposal pits.
- Major low water crossings will be armored with pit run material to protect them from erosion.
- All personnel shall refrain from collecting any paleontological fossils and from disturbing any fossil resources in the area.
- If fossils are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.
- Before the site is abandoned the company will be required to restore the right-of-way to near its original state. The disturbed area will be reseeded with desirable perennial vegetation. If necessary, the Bureau of Indian Affairs or Bureau of Land Management will provide a suitable seed mixture.
- Noxious weeds will be controlled on all surface disturbances within the project area. If noxious weeds spread from the project area onto adjoining land, the company will also be responsible for their control.
- If project construction operations are scheduled to occur after December 31, 2009, KMG shall conduct annual raptor surveys in accordance with the guidelines specified in the Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances, 2002. If active raptor nests are identified during a new survey, KMG shall conduct its operations according to the seasonal restrictions detailed in the Uinta basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah Raptor Guidelines (See Appendix D).
- USFWS threatened and endangered plant and animal conservation measures will be followed, as appropriate to the species identified by the biological resource survey (See Appendix D).
- All personnel shall refrain from collecting artifacts and from disturbing any significant cultural resources in the area.
- If artifacts or any culturally sensitive materials are exposed or identified during construction, all construction must cease and immediate notification to the Energy and Minerals Department and the Cultural Rights Protection Officer.



**DOWNHOLE PROGRAM  
CONDITIONS OF APPROVAL (COAs)**

**SITE SPECIFIC DOWNHOLE COAs:**

- A Gama Ray Log shall be run from TD to surface.

**Variances Granted:**

**Air Drilling:**

- Properly lubricated and maintained rotating head, variance granted to use a properly maintained and lubricated diverter bowl in place of a rotating head.
- Blooie line discharge 100' from the well bore, variance granted for blooie line discharge to be 45' from the well bore.
- Compressors located in the opposite direction from the blooie line a minimum of 100' from the well bore. Variance granted for two truck/trailer mounted air compressors located within 40 feet from the well bore and 60' from the blooie line.
- In lieu of mud products on location, Kerr McGee will fill the reserve pit with water for kill fluid.
- Automatic igniter. Variance granted for igniter due to there being no productive formations while drilling with air.

**All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to.** The following items are emphasized:

**DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS**

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the daily drilling report. Components shall be operated and tested as required by Onshore Oil & Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be performed by a test pump with a chart recorder and **NOT** by the rig pumps. Test shall be reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.

- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- **Cement baskets shall not be run on surface casing.**
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.
- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM, Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- **Please submit an electronic copy of all other logs run on this well in LAS format to UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.**
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

## OPERATING REQUIREMENT REMINDERS:

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at [www.ONRR.gov](http://www.ONRR.gov).
- Should the well be successfully completed for production, the BLM Vernal Field office must be notified when it is placed in a producing status. Such notification will be by written communication and must be received in this office by not later than the fifth business day following the date on which the well is placed on production. The notification shall provide, as a minimum, the following informational items:
  - Operator name, address, and telephone number.
  - Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs,

core data, drill stem test data, and results of production tests if performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field Office Petroleum Engineers will be provided with a date and time for the initial meter calibration and all future meter proving schedules. A copy of the meter calibration reports shall be submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover equipment shall be removed from a well to be placed in a suspended status without prior approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30 days, prior approval of the BLM Vernal Field Office shall be obtained and notification given before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

## BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG  
Submitted By ANDY LYTLE Phone Number 720.929.6100  
Well Name/Number NBU 921-20D4CS  
Qtr/Qtr NWNW Section 20 Township 9S Range 21E  
Lease Serial Number UTU0575  
API Number 4304750598

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 05/19/2011 12:00 HRS AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing  
☐ Intermediate Casing  
☐ Production Casing  
☐ Liner  
☐ Other

RECEIVED

MAY 18 2011

DIV. OF OIL, GAS &amp; MINING

Date/Time 06/09/2011 08:00 HRS AM ☐ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point  
☐ BOPE test at intermediate casing point  
☐ 30 day BOPE test  
☐ Other

Date/Time \_\_\_\_\_ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT KENNY GATHINGS AT

435.828.0986 OR LOVEL YOUNG AT 435.781.7051

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0959 FNL 1292 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 20 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505980000
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>	
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:	<input type="checkbox"/> <b>ACIDIZE</b>	
<input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:	<input type="checkbox"/> <b>ALTER CASING</b>	
<input checked="" type="checkbox"/> <b>SPUD REPORT</b> Date of Spud: 5/19/2011	<input type="checkbox"/> <b>CASING REPAIR</b>	
<input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<input type="checkbox"/> <b>CHANGE TO PREVIOUS PLANS</b>	
	<input type="checkbox"/> <b>CHANGE TUBING</b>	
	<input type="checkbox"/> <b>CHANGE WELL STATUS</b>	
	<input type="checkbox"/> <b>COMMINGLE PRODUCING FORMATIONS</b>	
	<input type="checkbox"/> <b>DEEPEN</b>	
	<input type="checkbox"/> <b>FRACTURE TREAT</b>	
	<input type="checkbox"/> <b>OPERATOR CHANGE</b>	
	<input type="checkbox"/> <b>PLUG AND ABANDON</b>	
	<input type="checkbox"/> <b>PRODUCTION START OR RESUME</b>	
	<input type="checkbox"/> <b>RECLAMATION OF WELL SITE</b>	
	<input type="checkbox"/> <b>REPERFORATE CURRENT FORMATION</b>	
	<input type="checkbox"/> <b>SIDETRACK TO REPAIR WELL</b>	
	<input type="checkbox"/> <b>TUBING REPAIR</b>	
	<input type="checkbox"/> <b>VENT OR FLARE</b>	
	<input type="checkbox"/> <b>WATER SHUTOFF</b>	
	<input type="checkbox"/> <b>SI TA STATUS EXTENSION</b>	
	<input type="checkbox"/> <b>WILDCAT WELL DETERMINATION</b>	
	<input type="checkbox"/> <b>OTHER</b>	
	OTHER: <input style="width: 100px;" type="text"/>	
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 PIPE. CMT W/28 SX READY MIX. SPUD WELL ON 05/19/2011 AT 1500 HRS.		
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>		
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock		<b>PHONE NUMBER</b> 435 781-7024
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst
<b>DATE</b> 5/20/2011		

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> Ute Tr			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0959 FNL 1292 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 20 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505980000			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 6/4/2011	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU AIR RIG ON JUNE 2, 2011. DRILLED SURFACE HOLE TO 2840'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.					
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>					
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 6/6/2011					



STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 6

**ENTITY ACTION FORM**

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995  
Address: 1368 SOUTH 1200 EAST  
city VERNAL  
state UT zip 84078 Phone Number: (435) 781-7024

**Well 1**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750597	NBU 921-20D4BS		NWNW	20	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	5/19/2011		<u>5/31/11</u>		
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSTMVD</u> SPUD WELL ON 05/19/2011 AT 0900 HRS <u>BHL = NWNW</u>							

**Well 2**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750596	NBU 921-20D1CS		NWNW	20	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	5/19/2011		<u>5/31/11</u>		
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSTMVD</u> SPUD WELL ON 05/19/2011 AT 1200 HRS <u>BHL = NWNW</u>							

**Well 3**

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304750598	NBU 921-20D4CS		NWNW	20	9S	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date		Entity Assignment Effective Date		
<u>B</u>	99999	<u>2900</u>	5/19/2011		<u>5/31/11</u>		
<b>Comments:</b> MIRU PETE MARTIN BUCKET RIG. <u>WSTMVD</u> SPUD WELL ON 05/19/2011 AT 1500 HRS. <u>BHL = NWNW</u>							

**ACTION CODES:**

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

SHEILA WOPSOCK

Name (Please Print)

Signature

REGULATORY ANALYST

Title

5/20/2011

Date

**RECEIVED**

**MAY 23 2011**

(5/2000)

DIV. OF OIL, GAS & MINING

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
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<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS			
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<b>TYPE OF SUBMISSION</b>  <input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:  <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:  <input type="checkbox"/> SPUD REPORT Date of Spud:  <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 7/10/2011	<b>TYPE OF ACTION</b>  <table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> MIRU ROTARY RIG. FINISHED DRILLING FROM 2840' TO 10,416' ON JULY 9, 2011. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING TO 9394'. RAN 4 1/2" 11.6# P110 CSG FROM 9394' TO 10,403'. CEMENTED PRODUCTION CASING. RELEASED H&P RIG 298 ON JULY 10, 2011 @ 1800 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL WAITING ON FINAL COMPLETION ACTIVITIES.					
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 7/12/2011		<b>FOR RECORD ONLY</b>			

**Carol Daniels - NBU 921-20D4CS PRODUCTION**

*T095 R21E S=20 43-047-50598*

**From:** "Anadarko - H&P 298"

**To:**

**Date:** 7/8/2011 1:22 PM

**Subject:** NBU 921-20D4CS PRODUCTION

Carol , we will be running 41/2,11.6# P110 & I-80 BT&C prod csg sunday 7/10/2011 @8-10 am on NBU 921-20D4CS Thanks

JIM MURRAY  
H&P 298  
435 828-0957

**RECEIVED**

**JUL 12 2011**

**DIV. OF OIL, GAS & MINING**

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0959 FNL 1292 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 20 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505980000			
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 10/11/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input checked="" type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <span style="border: 1px solid black; padding: 0 5px;">COMPLETION/CEMEN</span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input checked="" type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <span style="border: 1px solid black; padding: 0 5px;">COMPLETION/CEMEN</span>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  The Operator requests approval for the attached completion/cement squeeze operation. This well will require fracture stimulation followed by a remedial cement squeeze. This well has been identified as requiring remediation and is currently being monitored by Kerr-McGee's bradenhead best management practices. Thank you.					
<b>Accepted by the Utah Division of Oil, Gas and Mining</b>		<b>Date:</b> 10/12/2011 <b>By:</b>			
<b>NAME (PLEASE PRINT)</b> Andy Lytle		<b>PHONE NUMBER</b> 720 929-6100			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 10/10/2011					

# Greater Natural Buttes Unit



## **NBU 921-20D4CS** **COMPLETIONS PROCEDURE**

**DATE:8/31/2011**  
**AFE#:2029100**  
**API#:4304750598**  
**USER ID:OOT937** (Frac Invoices Only)

**COMPLETIONS ENGINEER:** Zach Garrity, Denver, CO  
(720) 929-6180 (Office)  
(406)-781-6427 (Cell)

**SIGNATURE:**

**ENGINEERING MANAGER: JEFF DUFRESNE**

**SIGNATURE:**

**REMEMBER SAFETY FIRST!**

**RECEIVED** Oct. 10, 2011

**Name:** NBU 921-20D4CS**Location:** SW SE NW NW Sec 20 T9S R21E**Uintah County, UT****LAT: 40.026205****LONG: -109.580413****COORDINATE: NAD83 (Surface)****Date:** **8/31/2011****ELEVATIONS:** 4793' GL 4819' KB *Frac Registry TVD: 10348***TOTAL DEPTH:** 10416'**PBTD:** 10381'**SURFACE CASING:**

9 5/8", 40# J-55 LT&amp;C @ 2836'

**PRODUCTION CASING:**

4 1/2", 11.6#, I-80 BT&amp;C @ 9394'

4 1/2", 11.6#, P-110 BT&amp;C @ 9394-10403'

Marker Joint **5009-5027 & 8149-8169'****TUBULAR PROPERTIES:**

	BURST (psi)	COLLAPSE (psi)	DRIFT DIA. (in.)	CAPACITIES	
				(bbl/ft)	(gal/ft)
2 3/8" 4.7# J-55 tbg	7,700	8,100	1.901"	0.00387	0.1624
4 1/2" 11.6# I-80 (See above)	7780	6350	3.875"	0.0155	0.6528
4 1/2" 11.6# P- 110	10691	7580	3.875"	0.0155	0.6528
2 3/8" by 4 1/2" Annulus				0.0101	0.4227

**TOPS:**

1554' Green River Top  
 1953' Bird's Nest Top  
 2349' Mahogany Top  
 5082' Wasatch Top  
 7985' Mesaverde Top

**BOTTOMS:**

7985' Wasatch Bottom  
 10416' Mesaverde Bottom (TD)

**T.O.C. @ 762'****GENERAL:**

- A minimum of **19** tanks (cleaned lined 500 bbl) of recycled water will be required. Note: Use biocide in tanks and the water needs to be at least 45°F at pump time.
- All perforation depths are from Schlumbergers RST log dated 8/9/11
- **9** fracturing stages required for coverage.
- Procedure calls for **9** CBP's (**8000** psi) .
- Calculate open perforations after each breakdown. If less than 60% of the perforations appear to be open, ball out with 15% HCl.
- Pump scale inhibitor at 3 gpt (in pad and until 1.25 ppg ramp up is reached) and 10 gpt in all flushes except the final stage. Remember to pre-load the casing with scale inhibitor for the very first stage with 10 gpt.
- 30/50 mesh Ottawa sand, **Slickwater frac.**
- Maximum surface pressure **7000** psi.

- Flush volumes are the sum of slick water and acid used during displacement (include scale inhibitor as mentioned above). Stage acid and scale inhibitor if necessary to cover the next perforated interval.
- **Call flush at 0 PPG @ inline densimeters. Slow to 5 bbl/min over last 10-20 bbls of flush. Flush to top perf.**
- **If distance between plug and top perf of previous stage is less than 50', it is considered to be tight spacing - over flush stage by 5 bbls (from top perf)**
- **TIGHT SPACING ON STAGE 1, 3, 5, 6, and 8; OVERFLUSH BY 5 BBLs**
- **Cement squeeze after selected depth after frac job.**

### **PROCEDURE:**

1. NU and test BOPs. RIH 3 7/8" mill and clean out to PBTD @ ~10381' if possible, or to 10165' at a minimum. Circulate hole clean with recycled water. POOH. Run CBL (if needed).
2. ND BOPs and NU frac valves. Test frac valves and casing to 1000 and 3500 psi for 15 minutes each and to 7000 psi for 30 minutes. As per standard operating procedure install steel blowdown line to reserve pit from 4-1/2" X 8-5/8" annulus. Lock **OPEN** the Braden head valve. Annulus will be monitored throughout stimulation. If release occurs, stimulation will be shut down. Well conditions will be assessed and actions taken as necessary to secure the well. UDOGM will be notified if a release to the annulus occurs.
3. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:
 

Zone	From	To	spf	# of shots
MESAVERDE	9977	9980	4	12
MESAVERDE	10022	10024	4	8
MESAVERDE	10134	10135	4	4
4. Breakdown perfs and establish injection rate (include scale inhibitor in fluid). Spot 250 gals of 15% HCL and let soak 5-10 min. Fracture as outlined in Stage 1 on attached listing. Under-displace to ~9977' and trickle 250gal 15%HCL w/ scale inhibitor in flush .  
**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**
5. Set 8000 psi CBP at ~9,930'. Perf the following 3-3/8" gun, 23 gm, 0.36" hole:
 

Zone	From	To	spf	# of shots
MESAVERDE	9732	9733	3	3
MESAVERDE	9778	9780	3	6
MESAVERDE	9802	9803	3	3
MESAVERDE	9864	9865	3	3
MESAVERDE	9897	9900	3	9
6. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 2 on attached listing. Under-displace to ~9732' and trickle 250gal 15%HCL w/ scale inhibitor in flush.
7. Set 8000 psi CBP at ~9,650'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:
 

Zone	From	To	spf	# of shots
MESAVERDE	9445	9446	4	4
MESAVERDE	9498	9500	4	8
MESAVERDE	9539	9540	4	4



MESAVERDE 9576	9577	4	4
MESAVERDE 9619	9620	4	4

8. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 3 on attached listing. Under-displace to ~9445' trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

9. Set 8000 psi CBP at ~9,404'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
MESAVERDE 9146	9148	4	8	
MESAVERDE 9194	9196	4	8	
MESAVERDE 9352	9354	4	8	

10. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 4 on attached listing. Under-displace to ~9146' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

11. Set 8000 psi CBP at ~8,958'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
MESAVERDE 8764	8765	3	3	
MESAVERDE 8781	8782	3	3	
MESAVERDE 8848	8850	3	6	
MESAVERDE 8879	8881	3	6	
MESAVERDE 8907	8908	3	3	

12. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 5 on attached listing. Under-displace to ~8764' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

13. Set 8000 psi CBP at ~8,752'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
MESAVERDE 8554	8555	4	4	
MESAVERDE 8588	8589	4	4	
MESAVERDE 8639	8640	4	4	
MESAVERDE 8657	8658	4	4	
MESAVERDE 8700	8702	4	8	

14. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 6 on attached listing. Under-displace to ~8554' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

15. Set 8000 psi CBP at ~8,530'. Perf the following 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
MESAVERDE 8338	8340	4	8	
MESAVERDE 8385	8387	4	8	
MESAVERDE 8478	8480	4	8	

16. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 7 on attached listing. Under-displace to ~8338' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

17. Set 8000 psi CBP at ~8,274'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
------	------	----	-----	------------

MESAVERDE 8180	8182	4	8
MESAVERDE 8206	8208	4	8
MESAVERDE 8242	8244	4	8

18. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 8 on attached listing. Under-displace to ~8180' and trickle 250gal 15%HCL w/ scale inhibitor in flush.

**NOTE: TIGHT SPACING THIS STAGE, OVERFLUSH BY 5BBLs**

19. Set 8000 psi CBP at ~8,132'. Perf the following with 3-3/8" gun, 23 gm, 0.36" hole:

Zone	From	To	spf	# of shots
MESAVERDE	7989	7990	4	4
MESAVERDE	8010	8012	4	8
MESAVERDE	8075	8077	4	8
MESAVERDE	8101	8102	4	4

20. Breakdown perfs and establish injection rate. Fracture as outlined in Stage 9 on attached listing. Under-displace to ~7989' and flush only with recycled water.

21. Set 8000 psi CBP at ~7939'.

22. Monitor current gas flow and/or pressure building up on the surface casing to establish a buildup rate.

23. Call for tubing. NU and Test BOPs.

24. RIH and perf the following 3-3/8" gun, 23 gm, 0.36" hole:

From	To	spf	# of shots
3324	3325	6	6

25. Establish injecting rate into perf. If not able to inject re-perforate **3324-3325'** (6spf).

26. RIH and perf the following 3-3/8" gun, 23 gm, 0.36" hole:

From	To	spf	# of shots
3234	3235	6	6

27. RIH w/ 4-1/2" packer at set @ **3260'**. Establish injection rate.

28. Monitor annulus between tubing and 4-1/2" casing for communication. Based on communication results; perform desired cement squeeze.

29. RIH set CICR at **3260'**.

30. R/U cement company and pump recommended cement job into perforations from **3234' – 3235'** and **3324' – 3325'**, based off injection rate and pressure. PUH w/ stinger and cap with CICR with cement. Reverse circulate clean. WOC for a minimum 12 hours prior to drill out.

31. POOH. TIH with 3 7/8" bit, pump off sub, SN and tubing. D-O CICR and cement to ~ **3330'**. Pressure test casing and perforations to 1000 psi for 10 minutes. Also verify that there is no gas flow or pressure building up on the surface casing. Contact engineer if there is a test failure.

32. Drill plugs and clean out to PBTD. Shear off bit and land tubing at  $\pm 9702'$  unless indicated otherwise by the well's behavior.
33. Clean out well with foam and/or swabbing unit until steady flow has been established from completion.
34. **Leave surface casing valve open.** Monitor and report any flow from surface casing. RDMO

**For design questions, please call  
Zach Garrity, Denver, CO  
(720) 929-6180 (Office)  
(406)-781-6427 (Cell)**

**For field implementation questions, please call  
Jeff Samuels, Vernal, UT  
435-781 7046 (Office)**

NOTES:

**TIGHT SPACING ON STAGE 1, 3, 5, 6, and 8; OVERFLUSH BY 5 BBLS**

**Verify that the Braden head valve is locked OPEN.**

**Cement squeeze after selected depth after frac job.**

## Fracturing Schedules

Name NEU 921-2004CS

Slickwater Frac

Copy to new book

Recomplete? Pad?	N
ACTS?	Y

Swabbing Days	0	Enter Number of swabbing days here for recompletes
Production Log	0	Enter 1 if running a Production Log
DFIT	0	Enter Number of DFITs

Stage	Zone	Perfs			Rate	Fluid	Initial	Final	Fluid	Volume	Cum Vol	Cum Vol	Fluid	Sand	Sand	Cum. Sand	Footage from	Scale
		Top. ft.	Bot. ft.	SPF	Holes	BPM	Type	ppg	ppg		BBLs	BBLs	% of frac	lbs	lbs	lbs	CBP to Flush	Inhib., gal.
1	MESAVERDE	9977	9980	4	12	Varied	Pump-in test			Slickwater	0	0	0					
	MESAVERDE	10022	10024	4	8	0	ISIP and 5 min ISIP	0.25	1.25	Slickwater	3,382	81	15.0%	0	0			65
	MESAVERDE	10134	10135	4	4	50	Slickwater Pad	0	0	Slickwater	9,770	152	28.3%	4,791	4,791			10
	MESAVERDE					50	SW Sweep	0	0	Slickwater	0	233	0.0%	0	0			19
	MESAVERDE					50	Slickwater Ramp	1.25	1.5	Slickwater	6,388	152	28.3%	8,783	13,574			0
	MESAVERDE					50	SW Sweep	0	0	Slickwater	0	385	0.0%	0	0			0
	MESAVERDE					50	Slickwater Ramp	0.5	1.5	Slickwater	0	385	0.0%	0	0			0
	MESAVERDE					50	Slickwater Ramp	1.5	2	Slickwater	6,388	152	28.3%	11,179	24,753			0
	MESAVERDE					50	Flush (4-12)			Slickwater	6,513	155						65
	MESAVERDE						ISDP and 5 min ISDP				29,058	692						159
	MESAVERDE									Sand laden Volume	22,545			38,000	22,879	lbs sand/md-ft		
	MESAVERDE				24						Flush depth	9,930	9977	CBP depth	47			
	MESAVERDE																	
2	MESAVERDE	9732	9733	3	3	13.8	Pump-in test			Slickwater	0	0	0					
	MESAVERDE	9778	9780	3	6	0	ISIP and 5 min ISIP	0.25	1.25	Slickwater	3,955	94	15.0%	0	0			12
	MESAVERDE	9802	9803	3	3	50	Slickwater Pad	0	0	Slickwater	11,425	178	28.3%	5,602	5,602			22
	MESAVERDE	9864	9865	3	3	50	SW Sweep	0	0	Slickwater	0	272	0.0%	0	0			0
	MESAVERDE	9897	9900	3	9	50	Slickwater Ramp	1.25	1.5	Slickwater	7,470	178	28.3%	10,271	15,874			0
	MESAVERDE					50	SW Sweep	0	0	Slickwater	0	450	0.0%	0	0			0
	MESAVERDE					50	Slickwater Ramp	0.5	1.5	Slickwater	0	450	0.0%	0	0			0
	MESAVERDE					50	Slickwater Ramp	1.5	2	Slickwater	7,470	178	28.3%	13,072	28,946			0
	MESAVERDE					50	Flush (4-12)			Slickwater	6,353	151						63
	MESAVERDE						ISDP and 5 min ISDP				32,717	779						97
	MESAVERDE									Sand laden Volume	26,364			38,000	41,721	lbs sand/md-ft		
	MESAVERDE				24						Flush depth	9,650	9732	CBP depth	82			
	MESAVERDE																	
	MESAVERDE																	
3	MESAVERDE	9445	9446	4	4	15.6	Pump-in test			Slickwater	0	0	0					
	MESAVERDE	9498	9500	4	8	0	ISIP and 5 min ISIP	0.25	1.25	Slickwater	3,349	80	15.0%	0	0			10
	MESAVERDE	9539	9540	4	4	50	Slickwater Pad	0	0	Slickwater	9,676	151	28.3%	4,745	4,745			19
	MESAVERDE	9576	9577	4	4	50	SW Sweep	0	0	Slickwater	0	230	0.0%	0	0			0
	MESAVERDE	9619	9620	4	4	50	Slickwater Ramp	1.25	1.5	Slickwater	16,002	151	28.3%	8,699	13,444			0
	MESAVERDE					50	SW Sweep	0	0	Slickwater	0	381	0.0%	0	0			0
	MESAVERDE					50	Slickwater Ramp	0.5	1.5	Slickwater	0	381	0.0%	0	0			0
	MESAVERDE					50	Slickwater Ramp	1.5	2	Slickwater	6,326	151	28.3%	11,071	24,515			0
	MESAVERDE					50	Flush (4-12)			Slickwater	6,166	147						61
	MESAVERDE						ISDP and 5 min ISDP				28,494	678						90
	MESAVERDE									Sand laden Volume	22,329			38,000	41,721	lbs sand/md-ft		
	MESAVERDE				24						Flush depth	9,404	9445	CBP depth	41			
	MESAVERDE																	
	MESAVERDE																	

[illegible]

7	MESAVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE	8338 8395 8476	8340 8387 8480	4 4 4	8 8 8	Varied ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP	0.25 0.63 0 0.75 0 0.75 0.25 0.75 1 0.75	Slickwater  Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	7,990 15,092 23,081 23,081 15,092 38,173 38,173 38,173 53,265 58,708 58,708	7,990 15,092 23,081 23,081 15,092 38,173 38,173 38,173 53,265 58,708 58,708	0 190 359 0 359 0 0 359 130 1,398	0 190 359 0 359 0 0 359 130 1,398	0 15.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3%	0 190 359 0 359 0 0 359 130 1,398	0 15.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3%	gal/md ft CBP depth	8338 8,274	21,533 lbs sand/md ft 64	0 6,603 0 10,376 16,978 0 16,978 30,183 30,183	0 6,603 0 10,376 16,978 0 16,978 30,183 30,183	24 45 0 0 0 0 0 0 0 54 123
8	MESAVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE	8180 8206 8242	8182 8208 8244	4 4 4	8 8 8	Varied ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP	0.25 0.63 0 0.75 0 0.75 0.25 0.75 1 0.75	Slickwater  Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	9,040 17,076 26,116 26,116 17,076 43,192 43,192 43,192 60,268 65,608 65,608	9,040 17,076 26,116 26,116 17,076 43,192 43,192 43,192 60,268 65,608 65,608	0 215 407 0 407 0 0 407 127 1,562	0 215 407 0 407 0 0 407 127 1,562	0 15.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3%	0 215 407 0 407 0 0 407 127 1,562	0 15.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3%	gal/md ft CBP depth	8338 8,274	21,533 lbs sand/md ft 64	0 7,471 0 11,740 19,210 0 19,210 34,152 34,152	0 7,471 0 11,740 19,210 0 19,210 34,152 34,152	27 51 0 0 0 0 0 0 53 131
9	MESAVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE MESASVERDE	7989 8010 8075 8101	7990 8012 8077 8102	4 4 4 4	4 8 8 4	Varied ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP ISIP and 5 min ISIP	0.25 0.63 0 0.75 0 0.75 0.25 0.75 1 0.75	Slickwater  Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater Slickwater	6,002 11,337 17,339 17,339 11,337 28,677 28,677 28,677 40,014 45,229 45,229	6,002 11,337 17,339 17,339 11,337 28,677 28,677 28,677 40,014 45,229 45,229	0 143 270 0 270 0 0 270 124 1,077	0 143 270 0 270 0 0 270 124 1,077	0 15.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3%	0 143 270 0 270 0 0 270 124 1,077	0 15.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3% 0.0% 28.3%	gal/md ft CBP depth	8180 8,132	21,533 lbs sand/md ft 48	0 4,960 0 7,794 12,754 0 12,754 22,675 22,675	0 4,960 0 7,794 12,754 0 12,754 22,675 22,675	18 34 0 0 0 0 0 0 52
# of Perfs/stage		24																			
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Total Stages	9	stages
Last Stage Flush	5,215	gals

Service Company Supplied Chemicals - Job Totals

Friction Reducer	169	gals @	0.5	GPT
Surfactant	338	gals @	1.0	GPT
Clay Stabilizer	338	gals @	1.0	GPT
15% Hcl	2250	gals @	250	gal/stg
Iron Control for acid	11	gals @	5.0	GPT of acid
Surfactant for acid	2	gals @	1.0	GPT of acid
Corrosion Inhibitor for acid	5	gals @	2.0	GPT of acid

Third Party Supplied Chemicals Job Totals - Include Pumping Charge if Applicable

Scale Inhibitor	908	gals pumped per schedule above
Biocide	169	gals @ 0.5 GPT



Name NBU 921-20D4CS  
Perforation and CBP Summary

Stage	Zones	Perforations		SPF	Holes	Fracture Coverage		
		Top, ft	Bottom, ft					
1	MESAVERDE	9977	9980	4	12	9967.5	to	9992
	MESAVERDE	10022	10024	4	8	10016.5	to	10032.5
	MESAVERDE	10134	10135	4	4	10120	to	10149.5
	# of Perfs/stage				24	CBP DEPTH	9,930	
2	MESAVERDE	9732	9733	3	3	9720.5	to	9736.5
	MESAVERDE	9778	9780	3	6	9760	to	9783
	MESAVERDE	9802	9803	3	3	9795.5	to	9804
	MESAVERDE	9864	9865	3	3	9840	to	9866
	MESAVERDE	9897	9900	3	9	9875.5	to	9915.5
	# of Perfs/stage				24	CBP DEPTH	9,650	
3	MESAVERDE	9445	9446	4	4	9401.5	to	9449.5
	MESAVERDE	9498	9500	4	8	9478.5	to	9506
	MESAVERDE	9539	9540	4	4	9519	to	9553.5
	MESAVERDE	9576	9577	4	4	9570.5	to	9608.5
	MESAVERDE	9619	9620	4	4	9612	to	9634
	# of Perfs/stage				24	CBP DEPTH	9,404	
4	MESAVERDE	9146	9148	4	8	9132	to	9173.5
	MESAVERDE	9194	9196	4	8	9181	to	9212
	MESAVERDE	9352	9354	4	8	9333.5	to	9371
	# of Perfs/stage				24	CBP DEPTH	8,958	
5	MESAVERDE	8764	8765	3	3	8743.5	to	8767.5
	MESAVERDE	8781	8782	3	3	8772	to	8790.5
	MESAVERDE	8848	8850	3	6	8828	to	8868.5
	MESAVERDE	8879	8881	3	6	8870.5	to	8892.5
	MESAVERDE	8907	8908	3	3	8896	to	8913.5
	# of Perfs/stage				21	CBP DEPTH	8,752	
6	MESAVERDE	8554	8555	4	4	8543.5	to	8555.5
	MESAVERDE	8588	8589	4	4	8575	to	8592.5
	MESAVERDE	8639	8640	4	4	8635	to	8648.5
	MESAVERDE	8657	8658	4	4	8652.5	to	8663
	MESAVERDE	8700	8702	4	8	8671.5	to	8719
	# of Perfs/stage				24	CBP DEPTH	8,530	
7	MESAVERDE	8338	8340	4	8	8319	to	8342
	MESAVERDE	8385	8387	4	8	8374	to	8388.5
	MESAVERDE	8478	8480	4	8	8458	to	8493
	# of Perfs/stage				24	CBP DEPTH	8,274	
8	MESAVERDE	8180	8182	4	8	8129	to	8190
	MESAVERDE	8206	8208	4	8	8197	to	8210.5
	MESAVERDE	8242	8244	4	8	8227.5	to	8246.5
	# of Perfs/stage				24	CBP DEPTH	8,132	
9	MESAVERDE	7989	7990	4	4	7985	to	8017.5
	MESAVERDE	8010	8012	4	8	8053.5	to	8080.5
	MESAVERDE	8075	8077	4	8	8099.5	to	8103
	MESAVERDE	8101	8102	4	4			
	# of Perfs/stage				24	CBP DEPTH	7,939	
Totals					213			

MD	TVD	INC
17	17	0
198	198	0.09
288	287.99	1.23
381	380.95	2.27
444	443.88	3.23
571	570.57	4.68
666	665.15	6.12
761	759.51	7.13
857	854.59	8.74
952	948.26	10.44
1046	1040.43	12.2
1141	1132.95	13.98
1237	1226.03	14.39
1332	1317.94	14.91
1427	1409.73	14.96
1522	1501.72	13.98
1618	1594.76	14.53
1713	1686.72	14.54
1808	1778.51	15.35
1902	1869.01	16
1997	1960.58	14.91
2092	2052.39	14.84
2187	2144.23	14.83
2282	2236.32	13.56
2377	2328.67	13.58
2471	2420.04	13.58
2566	2512.39	13.58
2661	2604.83	13.1
2756	2697.54	12.06
2799	2739.62	11.75
2844	2783.71	11.34
2939	2877.01	10.34
3033	2969.61	9.48
3128	3063.54	7.69
3222	3156.88	5.88
3317	3251.45	5
3411	3345.17	3.94
3505	3438.97	3.5
3694	3627.58	3.88
3789	3722.4	3.06
3883	3816.32	1.69
3978	3911.3	0.56
4072	4005.3	0.5
4166	4099.3	0.38
4261	4194.29	0.75
4356	4289.27	1.69
4450	4383.25	0.81
4544	4477.25	0.38
4639	4572.24	0.63
4733	4666.23	0.88
4828	4761.22	0.88
4922	4855.21	1.13
5017	4950.19	0.94
5111	5044.19	0.56

MD	TVD	INC
5206	5139.18	0.44
5300	5233.18	0.19
5394	5327.18	0.25
5489	5422.18	0.13
5583	5516.18	0.31
5677	5610.18	0.5
5772	5705.18	1.06
5866	5799.16	0.94
5961	5894.15	0.81
6055	5988.14	0.75
6149	6082.14	0.38
6244	6177.14	0.31
6338	6271.14	0.13
6433	6366.13	0.19
6527	6460.13	0.5
6622	6555.13	0.38
6716	6649.13	0.38
6811	6744.13	0.38
6905	6838.12	0.44
6999	6932.12	0.69
7094	7027.12	0.25
7188	7121.12	0.19
7283	7216.11	0.5
7378	7311.11	0.63
7472	7405.1	1.19
7567	7500.09	1.06
7662	7595.07	0.75
7756	7689.07	0.56
7851	7784.06	0.38
7946	7879.06	0.31
8041	7974.06	0.25
8136	8069.06	0.19
8231	8164.06	0.25
8326	8259.06	0.31
8420	8353.06	0.19
8515	8448.06	0.13
8609	8542.06	0.56
8704	8637.05	0.63
8798	8731.04	0.69
8895	8828.04	0.75
8987	8920.03	0.69
9081	9014.03	0.75
9175	9108.02	0.94
9270	9203	0.94
9364	9296.99	1.19
9553	9485.94	1.5
9647	9579.89	2
9742	9674.82	2.38
9836	9768.74	2.5
9931	9863.65	2.56
10025	9957.55	2.5
10120	10052.46	2.56
10214	10146.37	2.38
10416	10348.2	2.38

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU 0575			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b> UTE			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 921-20D4CS			
<b>4. LOCATION OF WELL</b> <b>FOOTAGES AT SURFACE:</b> 0959 FNL 1292 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: NWNW Section: 20 Township: 09.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047505980000			
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start:  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input checked="" type="checkbox"/> <b>DRILLING REPORT</b> Report Date: 11/18/2011	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input checked="" type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input type="checkbox"/> APD EXTENSION            OTHER: <input style="width: 100px;" type="text"/> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>
<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>			
<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b> THE SUBJECT WELL WAS PLACED ON PRODUCTION ON 11/18/2011 AT 1730 HRS. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.					
<b>Accepted by the          Utah Division of          Oil, Gas and Mining          FOR RECORD ONLY</b>					
<b>NAME (PLEASE PRINT)</b> Sheila Wopsock		<b>PHONE NUMBER</b> 435 781-7024			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 11/21/2011					

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0137  
Expires: July 31, 2010

## WELL COMPLETION OR RECOMPLETION REPORT AND LOG

5. Lease Serial No.  
UTU05751a. Type of Well ☐ Oil Well ☒ Gas Well ☐ Dry ☐ Other  
b. Type of Completion ☒ New Well ☐ Work Over ☐ Deepen ☐ Plug Back ☐ Diff. Resvr.  
Other \_\_\_\_\_

6. If Indian, Allottee or Tribe Name

7. Unit or CA Agreement Name and No.  
UTU63047A2. Name of Operator  
KERR MCGEE OIL & GAS ONSHORE, Mail: JAIME.SCHARNOWSKE@ANADARKO.COM

Contact: JAIME L. SCHARNOWSKE

Mail: JAIME.SCHARNOWSKE@ANADARKO.COM

8. Lease Name and Well No.  
NBU 921-20D4CS3. Address PO BOX 173779  
DENVER, CO 802173a. Phone No. (include area code)  
Ph: 720-929-63049. API Well No.  
43-047-50598

4. Location of Well (Report location clearly and in accordance with Federal requirements)\*

At surface NWNW 959FNL 1292FWL 40.026205 N Lat, 109.580413 W Lon

At top prod interval reported below NWNW 1283FNL 764FWL

At total depth NWNW 1326FNL 783FWL

BHL by HSM

10. Field and Pool, or Exploratory  
NATURAL BUTTES11. Sec., T., R., M., or Block and Survey  
or Area Sec 20 T9S R21E Mer SLB12. County or Parish  
UINTAH13. State  
UT14. Date Spudded  
05/19/201115. Date T.D. Reached  
07/09/201116. Date Completed  
☐ D & A ☒ Ready to Prod.  
11/18/201117. Elevations (DF, KB, RT, GL)\*  
4793 GL18. Total Depth: MD 10416  
TVD 1034819. Plug Back T.D.: MD 10382  
TVD 1031420. Depth Bridge Plug Set: MD  
TVD21. Type Electric & Other Mechanical Logs Run (Submit copy of each)  
RST TO OH - IBC/GR/CCL-SCBL-CBL22. Was well cored? ☒ No ☐ Yes (Submit analysis)  
Was DST run? ☒ No ☐ Yes (Submit analysis)  
Directional Survey? ☐ No ☒ Yes (Submit analysis)

## 23. Casing and Liner Record (Report all strings set in well)

Hole Size	Size/Grade	Wt. (#/ft.)	Top (MD)	Bottom (MD)	Stage Cementer Depth	No. of Sk. & Type of Cement	Slurry Vol. (BBL)	Cement Top*	Amount Pulled
20.000	14.000 STL	36.7	0	40		28			
12.250	9.625 J-55	40.0	0	2830		525		0	
7.875	4.500 I-80	11.6	0	9394		1761		762	
7.875	4.500 P-110	11.6	9394	10403					

## 24. Tubing Record

Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)	Size	Depth Set (MD)	Packer Depth (MD)
2.375	9702							

## 25. Producing Intervals

Formation	Top	Bottom	Perforated Interval	Size	No. Holes	Perf. Status
A) MESAVERDE	7989	10135	7989 TO 10135	0.360	213	OPEN
B) WSMVD						
C)						
D)						

## 26. Perforation Record

## 27. Acid, Fracture, Treatment, Cement Squeeze, Etc.

Depth Interval	Amount and Type of Material
7989 TO 10135	PUMP 8,745 BBLs SLICK H2O & 203,682 LBS 30/50 OTTAWA SAND

## 28. Production - Interval A

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
11/18/2011	11/24/2011	24	→	0.0	2328.0	225.0			FLows FROM WELL
Choke Size	Tbg. Press. Flwg. SI	Csg. Press. SI	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
20/64	SI	2150.0	→	0	2328	225		PGW	

## 28a. Production - Interval B

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press. SI	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
	SI		→						

(See Instructions and spaces for additional data on reverse side)

ELECTRONIC SUBMISSION #127762 VERIFIED BY THE BLM WELL INFORMATION SYSTEM

DIV. OF OIL, GAS &amp; MINING

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

RECEIVED  
JAN 17 2012

## 28b. Production - Interval C

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

## 28c. Production - Interval D

Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
			→						
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio	Well Status	
			→						

29. Disposition of Gas(Sold, used for fuel, vented, etc.)  
SOLD

## 30. Summary of Porous Zones (Include Aquifers):

Show all important zones of porosity and contents thereof: Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

## 31. Formation (Log) Markers

Formation	Top	Bottom	Descriptions, Contents, etc.	Name	Top Meas. Depth
				GREEN RIVER BIRD'S NEST MAHOGANY WASATCH MESAVERDE	1554 1953 2349 5082 7985

## 32. Additional remarks (include plugging procedure):

Attached is the chronological well history, perforation report & final survey.  
Performed cement remediation as approved 10/31/2011.

## 33. Circle enclosed attachments:

- |   |                    |               |                       |
|---|--------------------|---------------|-----------------------|
| 1. Electrical/Mechanical Logs (1 full set req'd.)     | 2. Geologic Report | 3. DST Report | 4. Directional Survey |
| 5. Sundry Notice for plugging and cement verification | 6. Core Analysis   | 7. Other:     |                       |

## 34. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records (see attached instructions):

**Electronic Submission #127762 Verified by the BLM Well Information System.  
For KERR MCGEE OIL & GAS ONSHORE,L, sent to the Vernal**

Name (please print) JAIME L. SCHARNOWSKETitle REGULATORY ANALYSTSignature (Electronic Submission)Date 01/10/2012

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**\*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\* ORIGINAL \*\***

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011	Spud Date: 6/2/2011
Project: UTAH-UINTAH		Site: NBU 921-20D PAD	Rig Name No: H&P 298/298, CAPSTAR 310/310
Event: DRILLING		Start Date: 5/9/2011	End Date: 7/10/2011
Active Datum: RKB @4,819.00usft (above Mean Sea Level)		UWI: NVW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
6/2/2011	7:00 - 8:00	1.00	DRLSUR	01	E	P		RIG DOWN WAIT ON TRUCKS TO MOVE RIG
	8:00 - 11:00	3.00	DRLSUR	01	C	P		SKID RG TO WELL 3/4 NBU 921-20D4CS
	11:00 - 13:00	2.00	DRLSUR	14	A	P		WELD ONCONDUCTOR AND RIG UP FLOW LINE
	13:00 - 13:30	0.50	DRLSUR	06	A	P		PICK UP MUD MOTOR AND 12.25" BIT
	13:30 - 14:30	1.00	DRLSUR	02	C	P		SPUD WELL WITH 12.25" BIT DRILL F/ 40' - 227'
	14:30 - 17:00	2.50	DRLSUR	06	A	P		WOB 8-20 ROT 45-55 DHR 96 GPM 600 NO LOSSES
	17:00 - 0:00	7.00	DRLSUR	02	C	P		TOOH INSTALL DIRECTIONAL TOOLS AND ORIENT MWD TOOL TO MUD MOTOR AND TIH
6/3/2011	0:00 - 15:30	15.50	DRLSUR	02	C	P		DRILL 12.25" HOLE F/ 227' - 992' AVE ROP 110 FT
	15:30 - 16:00	0.50	DRLSUR	07	A	P		HR WOB 20-22 ROT 45-55 GPM 600 DHR 96 NO LOSSES LAST SURVEY 10.44 DEG 240.41 AZI
	16:00 - 22:30	6.50	DRLSUR	02	C	P		DRILL 12.25" HOLE F/ 992' - 2418' AVE ROP 92 FT
								HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 NO LOSSES LAST SURVEY 13.58 DEG 241.6 AZI
6/4/2011	22:30 - 0:00	1.50	DRLSUR	05	C	P		DAILY RIG SERVICE
	0:00 - 0:30	0.50	DRLSUR	05	C	P		DRILL 12.25" HOLE F/ 2418' - 2840' T.D. AVE ROP 92 FT
	0:30 - 1:30	1.00	DRLSUR	06	E	P		HR WOB 20-22 ROT 45-55 DHR 96 GPM 600 NO LOSSES LAST SURVEY 11.75 DEG 236.89 AZI
	1:30 - 2:30	1.00	DRLSUR	05	C	P		CIRCULATE AND CONDITION MUD PRIOR TO LDDS
	2:30 - 5:30	3.00	DRLSUR	06	A	P		CIRCULATE AND CONDITION HOLE PRIOR TO LDDS
	5:30 - 10:30	5.00	DRLSUR	12	C	P		WIPER TRIP 15 JOINTS DUE TO TIGHT HOLE
	10:30 - 12:30	2.00	DRLSUR	12	E	P		CIRCULATE AND CONDITION HOLE PRIOR TO LDDS
								L/D DIRECTIONAL TOOLS AND BREAK BIT MUD MOTOR AND SHOCK SUB
7/2/2011								RIG UP AND RUN 86 JOINTS 9.625 40# J55 CASING SHOE AT 2809' BAFFLE AT 2769'
								TEST LINES TO 2500 PSI // PUMP 25 BBL SPACER // LEAD= 200 SX CLASS G CMT @ 3.83 YIELD & 11.0 WT // TAIL= 225 SX CLASS G CMT @ 1.15 YIELD & 15.8 WT // DROP PLUG & DIEPLACE W/ 158 BBL'S WATER // PLUG DN // BUMP PLUG W/ 625 PSI // FINAL LIFT = 245 PSI // CHECK FLOATS- HELD W/ 20 BBL'S BACK //
	12:30 - 13:00	0.50	DRLSUR	14	A	P		CUT CONDUCTOR AND HANG OF CASING
	13:00 - 14:00	1.00	DRLSUR	12	E	P		RUN 200' OF 1" PIPE PUMP 1" TOP OUT W/ 100 SX CLASS G CMT @ 1.15 YIELD @ 15.8 WT RELEASE RIG 6-4-2011 @ 1400
	12:00 - 14:30	2.50	MIRU	01	C	P		PJSM / SKID 20' F/ NBU 921- 20D1CS TO NBU 921-20D4CS/ CENTER OVER WELL
	14:30 - 15:00	0.50	MIRU	01	B	P		RU RT
	15:00 - 15:30	0.50	PRPSPD	14	A	P		NU BOP'S & EQUIPMENT
	15:30 - 16:00	0.50	PRPSPD	01	B	P		CHANGE OUT BAILS
	16:00 - 16:30	0.50	PRPSPD	15	A	P		TEST CSG TO 1500 PSI
	16:30 - 21:00	4.50	PRPSPD	15	A	P		TEST BOP'S & EQUIPMENT AS PER PROGRAM 250 PSI LOW / 5000 PSI HIGH / ANNULAR 250 / 2500
	21:00 - 21:30	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING
	21:30 - 22:30	1.00	PRPSPD	06	A	P		PU & MU DIRECTIONAL BHA # 1 W/ WEATHERFORD/ SCRIBE ORIENTATE TOOLS/ ATTEMPT TO TIH / BIT WILL NOT PASS THROUGH WEAR BUSHING

**US ROCKIES REGION**

**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD		Rig Name No: H&P 298/298, CAPSTAR 310/310	
Event: DRILLING		Start Date: 5/9/2011		End Date: 7/10/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)			UWI: NWNW/0/9/S/21/E/20/0/0/26/PM/N/959/NW/0/1292/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/3/2011	22:30 - 0:00	1.50	SUSPEN	22	O	X		TROUBLE SHOOT/ REPLACE STUD & GLAND NUT ON LOCKING PIN FOR WEAR BUSHING
	0:00 - 1:00	1.00	PRPSPD	22	L	X		REWORK LOCKING PIN FOR WEAR BUSHING ON BOP
	1:00 - 1:30	0.50	PRPSPD	07	A	P		SERVICE RIG
	1:30 - 2:00	0.50	PRPSPD	23		P		PRE SPUD MTG & INSPECTION
	2:00 - 5:00	3.00	PRPSPD	15	A	X		REPLACE LOCKING PIN WITH NEW / RETEST LOCKING PIN ON BOP (GLAND PKG) 250/5000 PSI
	5:00 - 5:30	0.50	PRPSPD	14	B	P		INSTALL WEAR BUSHING
	5:30 - 7:00	1.50	PRPSPD	06	A	P		TIH W/ BHA #1 TO 2,734' CHECK DRK FOR LEVEL - OK
	7:00 - 8:00	1.00	DRLPRO	02	F	P		DRILL CEMENT & SHOE TRACK F/ 2,734' TO 2,823' CLEAN OUT RAT HOLE TO 2,857'
	8:00 - 18:00	10.00	DRLPRO	02	D	P		DRILL/ SLIDE/ SURVEY F/ 2,857' TO 4,028' = 1,171' @ 117.1 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2150/1800 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 125/115/105 TORQUE ON/OFF BOTTOM 6K/3K / SLIDE 71' IN 80 MIN 6% OF FOOTAGE DRILLED 13% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 2.0 PPG
	18:00 - 19:00	1.00	DRLPRO	05	B	X		20 TO 50' FLARE
7/4/2011	19:00 - 0:00	5.00	DRLPRO	02	D	P		CIRC & PUMP WT SWEEPS TO CONTOL GAS / 25 TO 50' FLARE
								DRILL/ SLIDE/ SURVEY F/ 4,028' TO 4,530' = 502' @ 100.4 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2300/2000 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 135/110/120 TORQUE ON/OFF BOTTOM 8K/3K / SLIDE 51' IN 50 MIN 10% OF FOOTAGE DRILLED 16% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 2.0 PPG
								10' TO 15' FLARE
	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL / SLIDE/ SURVEY F/ 4,530' TO 5,110' = 580' @ 96.66 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2150 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 160/135/140 TORQUE ON/OFF BOTTOM 10K/7K / SLIDE 35' IN 55 MIN 5% OF FOOTAGE DRILLED 15% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 2.0 PPG
	6:00 - 15:00	9.00	DRLPRO	02	D	P		DRILL / SLIDE/ SURVEY F/ 5,110' TO 6,105' = 580' @ 110.55 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2500/2150 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 162/135/142 TORQUE ON/OFF BOTTOM 11K/7K / SLIDE 20' IN 30 MIN 2% OF FOOTAGE DRILLED 5% OF HRS DRILLED H2O + POLYMER W/ WEIGHTED SWEEPS +/- 2.0 PPG MUD UP @ 6,000' DUE TO SLOUGHING SHALE & TORQUE
	15:00 - 15:30	0.50	DRLPRO	07	A	P		SERVICE RIG @ 6,105'



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD		Rig Name No: H&P 298/298, CAPSTAR 310/310	
Event: DRILLING		Start Date: 5/9/2011		End Date: 7/10/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILL / SURVEY F/ 6,105' TO 6,760' = 655' @ 77.05 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 120 SPM = 540 GPM / PUMP PRESSURE ON/OFF BOTTOM 2300/2050 PSI / MUD MOTOR RPM 114 / PU/SO/ROT WT 180/135/155 TORQUE ON/OFF BOTTOM 11K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 9.4 / VIS 35
7/5/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 6,760' TO 7,085' = 325' @ 54.16 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2100/1950 PSI / MUD MOTOR RPM 104 / PU/SO/ROT WT 195/138/165 TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 9.4 / VIS 34
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 7,085' TO 7,428' = 343' @ 42.87 FPH // WOB 15K-20K / TOP DRIVE RPM 40-60 / PUMP 110 SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2300/2050 PSI / MUD MOTOR RPM 104 / PU/SO/ROT WT 200/140/167 TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 12' IN 20 MIN 3% OF FOOTAGE DRILLED 4% OF HRS DRILLED / MUD WT 9.7 / VIS 35
	14:00 - 14:30	0.50	DRLPRO	07	A	P		SERVICE RIG @ 7,428'
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL / SURVEY F/ 7,428' TO 7,712' = 284' @ 30 FPH // WOB 18K-22K / TOP DRIVE RPM 40-60 / PUMP 110/105 SPM = 495/475 GPM / PUMP PRESSURE ON/OFF BOTTOM 2300/2050 PSI / MUD MOTOR RPM 104/ 99 / PU/SO/ROT WT 210/145/172 TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 9.9 / VIS 38 / NO MUD LOSE
7/6/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 7,712' TO 7,915' = 203' @ 34 FPH // WOB 18K-22K / TOP DRIVE RPM 40-60 / PUMP 110/105 SPM = 495/475 GPM / PUMP PRESSURE ON/OFF BOTTOM 2300/2050 PSI / MUD MOTOR RPM 104/ 99 / PU/SO/ROT WT 210/145/172 TORQUE ON/OFF BOTTOM 10K/8K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 10.0 / VIS 38 / NO MUD LOSS
	6:00 - 13:00	7.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 7,915' TO 8090' = 175' @ 19.4 FPH // WOB 18K-24K / TOP DRIVE RPM 40-60 / PUMP 110/ SPM = 495 GPM / PUMP PRESSURE ON/OFF BOTTOM 2285/2125 PSI / MUD MOTOR RPM 104 / PU/SO/ROT WT 201/153/175 TORQUE ON/OFF BOTTOM 10K/11K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 10.4 / VIS 38 / NO MUD LOSS
	13:00 - 13:30	0.50	DRLPRO	07	A	P		RIG SERVICE

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 8/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310
Event: DRILLING		Start Date: 5/9/2011		End Date: 7/10/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/7/2011	13:30 - 16:00	2.50	DRLPRO	02	D	P		DRILL / SURVEY F/ 8090' TO 8160' = 70' @ 28 FPH / / WOB 18K-24K / TOP DRIVE RPM 40-60 / PUMP 110/105 SPM = 495/475 GPM / PUMP PRESSURE ON/OFF BOTTOM 2285/2125 PSI / MUD MOTOR RPM 104/ 99 / PU/SO/ROT WT 201/153/177 TORQUE ON/OFF BOTTOM 10K/11K / SLIDE 0' IN 0 MIN 0% OF FOOTAGE DRILLED 0% OF HRS DRILLED / MUD WT 10.5 / VIS 38 / NO MUD LOSS
	16:00 - 17:00	1.00	DRLPRO	05	C	P		CIRCULATE BTMS UP , PREP FOR BIT TRIP, MIX & PUMP SLUG
	17:00 - 21:30	4.50	DRLPRO	06	A	P		TOH, TIGHT SPOTS@ 5,000, 4,760' ,FLOW CHECK,@ CSG SHOE,PULL ROTA RUBBER TOH,PULL MWD TOOL ,FUNCT TEST BOP, BREAK BIT
	21:30 - 23:00	1.50	DRLPRO	06	A	P		X/O M MTRS & BIT,SCRIBE DIR TOOLS,INSTALL MWD SURFACE TEST TOOLS.
	23:00 - 0:00	1.00	DRLPRO	06	A	P		TIH, TO CSG SHOE
	0:00 - 1:00	1.00	DRLPRO	07	B	P		LEVEL DERRICK ,INSTALL NEW ROTA RUBBER
	1:00 - 2:00	1.00	DRLPRO	09	A	P		SLIP & CUT DRILL LINE
	2:00 - 5:00	3.00	DRLPRO	06	A	P		TIH BREAK CIRC @ CSG SHOE & 5500' WASH 95' TO BTM NO FILL
	5:00 - 6:00	1.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 8160' TO 8210' = 50' @ 50 FPH / / WOB 18K-21K / TOP DRIVE RPM 40-60 / PUMP 110/ SPM = 495/ GPM / PUMP PRESSURE ON/OFF BOTTOM 2315/2100 PSI / MUD MOTOR RPM 80 PU/SO/ROT WT 204153/177 TORQUE ON/OFF BOTTOM 10K/11K // MUD WT 10.5 / VIS 38 / NO MUD LOSS
	6:00 - 14:00	8.00	DRLPRO	02	D	P		DRILL / SURVEY F/ 8210 TO 8566' =356' @ 44.5 FPH // WOB 18K-21K / TOP DRIVE RPM 40-60 / PUMP 110/ SPM = 495/ GPM / PUMP PRESSURE ON/OFF BOTTOM 2370/2200 PSI / MUD MOTOR RPM 80 PU/SO/ROT WT 212/160/182 TORQUE ON/OFF BOTTOM 10K/11K // MUD WT 11.0 / VIS 40 / MUD LOSS 40 BBLs BYPASS SHAKERS @ 8300' LCM 5%
7/7/2011	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL / SURVEY F/8586 TO 8960' =374' @ 39.3 FPH // WOB 18K-22K / TOP DRIVE RPM 40-60 / PUMP 110/105 SPM = 495/ 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2575/2400 PSI / MUD MOTOR RPM 80 /74 PU/SO/ROT WT 216/162/186 TORQUE ON/OFF BOTTOM/ SLIDE 17' IN60MIN 4% OF FOOTAGE DRILLED 10% OF HRS DRILLED / 10K/11K // MUD WT 11.9 / VIS 40 / MUD LOSS 70 BBLs ' LCM 10%
7/8/2011	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL / SURVEY F/8960 TO 9245 =285 @ 47.5 FPH // WOB 18K-22K / TOP DRIVE RPM 40-60 / PUMP 110/105 SPM = 495/ 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2575/2400 PSI / MUD MOTOR RPM 80 /74 PU/SO/ROT WT 216/162/186 TORQUE ON/OFF BOTTOM / 10K/11K // MUD WT 11.9 / VIS 40 / LCM 10%/ NO MUD LOSS

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310
Event: DRILLING		Start Date: 5/9/2011		End Date: 7/10/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)			UWI: NW/NW0/9/S/21/E/20/0/0/26/PM/N/959/NW0/1292/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
7/9/2011	6:00 - 15:00	9.00	DRLPRO	02	D	P		DRILL / SURVEY F/9245 TO 9606 =361 @ 40.1 FPH // WOB 18K-22K / TOP DRIVE RPM 40-60 / PUMP 110/105 SPM = 495/ 450 GPM / PUMP PRESSURE ON/OFF BOTTOM 2650/2500 PSI / MUD MOTOR RPM 80 /74 PU/SO/ROT WT 220/180/191 TORQUE ON/OFF BOTTOM / 10K/11K // MUD WT 12.2 / VIS 46 / LCM 10%/ NO MUD LOSS
	15:00 - 15:30	0.50	DRLPRO	07	A	P		RIG SERVICE
	15:30 - 0:00	8.50	DRLPRO	02	D	P		DRILL / SURVEY F/9606 TO 9900 =294 @ 34.5 FPH // WOB 18K-24K / TOP DRIVE RPM 40-60 / PUMP / 105 SPM = 472 GPM / PUMP PRESSURE ON/OFF BOTTOM 2775/2550 PSI / MUD MOTOR RPM 72 / PU/SO/ROT WT 230/176/199 TORQUE ON/OFF BOTTOM / 10K/11K // MUD WT 12.3 / VIS 46 / LCM 10%/ NO MUD LOSS
	0:00 - 6:00	6.00	DRLPRO	02	D	P		DRILL / SURVEY F/9900 TO 10,105 =205 @ 34.1 FPH // WOB 18K-24K / TOP DRIVE RPM 40-60 / PUMP / 105 SPM = 472 GPM / PUMP PRESSURE ON/OFF BOTTOM 2785/2550 PSI / MUD MOTOR RPM 72 / PU/SO/ROT WT 240/176/203 TORQUE ON/OFF BOTTOM / 10K/11K // MUD WT 12.4 / VIS 46 / 5' FLARE ON CONN GAS / LCM 10% / NO MUD LOSS
	6:00 - 12:00	6.00	DRLPRO	02	D	P		DRILL / SURVEY F/10,105 TO 10,339 =234 @ 39 FPH // WOB 18K-24K / TOP DRIVE RPM 40-60 / PUMP / 105 SPM = 472 GPM / PUMP PRESSURE ON/OFF BOTTOM 2785/2550 PSI / MUD MOTOR RPM 72 / PU/SO/ROT WT 240/176/203 TORQUE ON/OFF BOTTOM / 15K/12K // MUD WT 12.4 / VIS 46 / 5' FLARE ON CONN GAS / LCM 10% / NO MUD LOSS / LOST COMMUNICATION WITH DIR TOOLS UNABLE TO REVIEVE SURVEY DATA
	12:00 - 13:00	1.00	DRLPRO	07	C	P		LUB RIG,WORK ON PUMPS
	13:00 - 16:00	3.00	DRLPRO	02	D	P		DRILL F/10,339 TO 10,416 TD=77 @ 25.6 FPH // WOB 20K-26K / TOP DRIVE RPM 40-60 / PUMP / 105 SPM = 472 GPM / PUMP PRESSURE ON/OFF BOTTOM 2785/2550 PSI / MUD MOTOR RPM 72 / PU/SO/ROT WT 240/189/204 TORQUE ON/OFF BOTTOM / 10K/11K // MUD WT 12.4 / VIS 46 / LCM 10% NO MUD LOSS
	16:00 - 17:00	1.00	DRLPRO	05	C	P		CCH @ 10,416 TD / PUMP SWEEP,MIX & PUMP SLUG FOR WIPER TRIP
	17:00 - 19:00	2.00	DRLPRO	06	E	P		20 STD WIPER TRIP TO 8500' / NO PROBLEMS
	19:00 - 21:00	2.00	DRLPRO	05	C	P		CCH / F CASING MUD CUT 2/10THS ON BTM UP / NO FLARE
7/10/2011	21:00 - 0:00	3.00	DRLPRO	06	D	P		PUMP SLUG TOH F/ CASING
	0:00 - 1:30	1.50	DRLPRO	06	D	P		TOH,FLOW CHECK @ SHOE / PULL ROTA RUBBER,& CORR RING / I/HOLE WAS GOOD TOOK PROPER FLUID
	1:30 - 2:00	0.50	DRLPRO	06	D	P		PULL MWD TOOL, / FUNCT TEST PPE & BLIND RAMS / BREAK BIT & MM, LAY DOWN SAME
	2:00 - 2:30	0.50	DRLPRO	14	B	P		PULL WEAR BUSHING
	2:30 - 3:00	0.50	CSG	12	A	P		X/O BAILS & ELEVATORS
	3:00 - 4:00	1.00	CSG	12	A	P		HSM RU WEATHERFORD TO RUN CASING

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD			Rig Name No: H&P 298/298, CAPSTAR 310/310
Event: DRILLING		Start Date: 5/9/2011		End Date: 7/10/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/NW/0/1292/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	4:00 - 12:30	8.50	CSG	12	C	P		RUN CSG, 23 JTS OF 41/2 11.6# P-110,BT&C 224 JTS 4.5 #11.6 I-80 BT&C CASING + RELATED TOOLS BREAKING CIRCULATION AT SELECTED INTERVALS,/ INSTALL ROTATING RUBBER / HOLD CASING @10,403 TO CIRCULATE & CEMENT CIRC CSG F/ CMT R/D WEATHERFORD
	12:30 - 13:30	1.00	CSG	05	D	P		
	13:30 - 16:30	3.00	CSG	12	E	P		SAFETY MEETING (REVIEW J.S.A.) M.I.R.U. BJ EQUIPMENT / TEST PUMPS & LINES TO 5000 PSI / PUMP 40 BBLS H2O +645 SX LEAD CEMENT @ 12.4 ppg (PREM LITE II + .25 pps CELLO FLAKE + 5 pps KOL SEAL + .05 lb/sx STATIC FREE + 10% bwoc BENTONITE + .2% bwoc SODIUM META SILICATE + .4 % R-3 + 166 BBLS FRESH WATER / (10.80 gal/sx, 2.03 yield) + 1116 SX TAIL @ 14.3 ppg (CLS G 50/50 POZ + 10% SALT + .05lbs/sx STATIC FREE + .2% R3 + .002 GPS FP-6L + 2% BENTONITE + 156 BBLS H2O / (5.90 gal/sx, 1.31 yield) / DROP PLUG & DISPLACE W/ 161 BBLS H2O + ADDITIVES / PLUG DOWN @ 16:10 HOURS / FLOATS HELD W/ 1.5 BBLS H2O RETURNED TO INVENTORY/ GOOD CIRC THROUGHOUT W/ 25 BBLS SPACER TO PIT LIFT PRESSURE @ 2830 PSI / BUMP PRESSURE TO 3375 PSI / TOP OF TAIL CEMENT CALCULATED @ 4008 / RIG DOWN CMT EQUIP/ CSG SHOE 10,403,FC @ 10,384/ TOP OF MKR JT MV 8151 ,MKR JT WASATCH 5014'
	16:30 - 17:30	1.00	CSG	12	C	P		FLUSH & P/U BOPSTACK SET C-22 11X41/2 CASING SLIPS WITH 98 K/ CUT OFF L/D LANDING JT
	17:30 - 18:00	0.50	CSG	01	E	P		PREP TO SKID/RIG RELEASED TO NBU 921-20B3CS @ 18:00 HRS 7/10/2011

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-20D4CS YELLOW	Wellbore No.	OH
Well Name	NBU 921-20D4CS	Wellbore Name	NBU 921-20D4CS
Report No.	1	Report Date	9/9/2011
Project	UTAH-UINTAH	Site	NBU 921-20D PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/9/2011	End Date	11/18/2011
Spud Date	6/2/2011	Active Datum	RKB @4,819.00usft (above Mean Sea Level)
UWI	NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0		

### 1.3 General

Contractor	CASEDHOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	DAVE DANIELS
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

### 1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	7,989.0 (usft)-10,135.0 (usft)	Start Date/Time	9/12/2011 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	36	End Date/Time	9/12/2011 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	213	Net Perforation Interval	57.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.74 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

### 1.5 Summary

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/12/2011 12:00AM	MESAVERDE/			7,989.0	7,990.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	



## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/12/2011 12:00AM	MESAVERDE/			8,010.0	8,012.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,075.0	8,077.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,101.0	8,102.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,180.0	8,182.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,206.0	8,208.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,242.0	8,244.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,338.0	8,340.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,385.0	8,387.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,478.0	8,480.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,554.0	8,555.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,588.0	8,589.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,639.0	8,640.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,657.0	8,658.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,700.0	8,702.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,764.0	8,765.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,781.0	8,782.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,848.0	8,850.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,879.0	8,881.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,907.0	8,908.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,146.0	9,148.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,194.0	9,196.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/12/2011 12:00AM	MESAVERDE/			9,352.0	9,354.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,445.0	9,446.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,498.0	9,500.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,539.0	9,540.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,576.0	9,577.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,619.0	9,620.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,732.0	9,733.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,778.0	9,780.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,802.0	9,803.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,864.0	9,865.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,897.0	9,900.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,977.0	9,980.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			10,022.0	10,024.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			10,134.0	10,135.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 3 Plots

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-20D4CS YELLOW	Wellbore No.	OH
Well Name	NBU 921-20D4CS	Wellbore Name	NBU 921-20D4CS
Report No.	2	Report Date	11/14/2011
Project	UTAH-UINTAH	Site	NBU 921-20D PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/9/2011	End Date	11/18/2011
Spud Date	6/2/2011	Active Datum	RKB @4,819.00usft (above Mean Sea Level)
UWI	NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0		

### 1.3 General

Contractor	CASED HOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	BRAD BURMAN
Perforated Assembly		Conveyed Method	WIRELINE		

### 1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	3,234.0 (usft)-3,325.0 (usft)	Start Date/Time	11/14/2011 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	2	End Date/Time	11/14/2011 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	12	Net Perforation Interval	2.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	6.00 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

### 1.5 Summary

## 2 Intervals

### 2.1 Perforated Interval

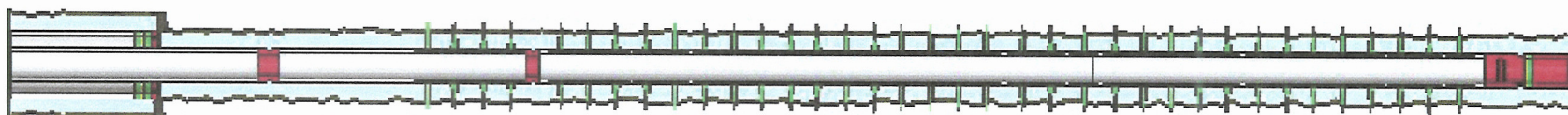
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf.	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/2011 12:00AM				3,234.0	3,235.0	6.00		0.360	EXP/	3.000	90.00		23.00	CEMENT SQUEEZE	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
11/14/201 1 12:00AM				3,324.0	3,325.0	6.00		0.360	EXP/	3.000	90.00		23.00	CEMENT SQUEEZE	

## 3 Plots

## 3.1 Wellbore Schematic



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011	Spud Date: 6/2/2011
Project: UTAH-UINTAH	Site: NBU 921-20D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION	Start Date: 9/9/2011		End Date: 11/18/2011
Active Datum: RKB @4,819.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
9/12/2011	-							
11/10/2011	7:00 - 18:00	11.00	COMP	36		P		<p>7AM [DAY 2] JSA - - WIRELINE WORK, FRACING, PSI, PRIOR TO MIRU, N/U FRAC VALVES &amp; B&amp;C QUICK TEST P.T. CSG &amp; FRAC VALVES- - P.T. TO 1000#. LOST 10# IN 15 MINUTES. P.T. TO 3500#. LOST 19# IN 15 MINUTES. P.T. TO 7000#. LOST 89# IN 30 MINUTES.</p> <p>[STG#1] MIRU CHS. RIH W/ PERF GUNS &amp; PERF THE M.V. @ 9977'-9980', 10,022'-10,024', &amp; 10,134' TO 10,135' USIING 3-3/8" EXP GUNS, 23 GM, 0.36, 90° PHS, 4 SPF, 24 HOLES. WHP=0#. WAIT ON SUPERIOR FOR 3 HRS. MIRU SUPERIOR. HLD SUPERIOR JSA. P.T. PUMPS &amp; LINES TO 8500#.LOST 260# IN 15 MIN. SET KILLS ON PUMPS, SET POP OFFS.- - NITROGEN SET @ 6800#, MECHANICAL SET @ 6890#. FRAC STG#1 AS PER DESIGN.</p> <p>[STG#2] PERF &amp; FRAC AS PER DESIGN.</p> <p>[STG#3] PERF STG 3 AS PER DESIGN.</p> <p>SURFACE CSG VENTED 1/2 BBL THICK OIL WHILE FRACING TODAY- - IN PIT.</p> <p>6PM SWI-SDFN. PREP TO FRAC 7 MORE STGS IN AM.</p>
11/11/2011	7:00 - 18:00	11.00	COMP	36		P		<p>7AM [DAY 2] JSA WITH SUPERIOR.</p> <p>[ STG#3] FRAC BY DEIGN.</p> <p>[STG#4] PERF &amp; FRAC BY DESIGN.</p> <p>[STG#5] PERF &amp; FRAC BY DESIGN</p> <p>[STG#6] PERF &amp; FRAC BY DESIGN.</p> <p>[STG#7] PERF &amp; FRAC BY DESIGN.</p> <p>[STG#8] PERF &amp; FRAC BY DESIGN.</p> <p>[STG#9] PERF &amp; FRAC BY DESIGN.</p> <p>[KILL PLUG] SET @ 7948'. TOTAL 30/50 SAND PUMPED=203,682# &amp; TOTAL FLUID= 8,745 BBLS. RDMO SUPERIOR &amp; CHS.</p> <p>6PM SWI-SDF-WE. PREP TO PERF &amp; SQZ MONDAY.</p>



**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011	Spud Date: 6/2/2011
Project: UTAH-UINTAH		Site: NBU 921-20D PAD	Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3
Event: COMPLETION		Start Date: 9/9/2011	End Date: 11/18/2011
Active Datum: RKB @4,819.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0	

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/14/2011	7:00 - 15:00	8.00	COMP	30		P		<p>7AM [DAY 4] JSA- - NDFV, NUBOP, P/U TBG, W.L. WORK, PMPG CMT.</p> <p>SICP=0#. SCP=0# OPEN TO PIT. VERY LIGHT GAS VAPORS COMING FROM SURFACE CSG.. NDFV, NUBOP. R/U FLOOR &amp; TBG EQUIPMENT.</p> <p>MIRU CHS. RIH &amp; PERF @ 3324'-3325' USING 3-1/8" EXP GUNS, 23 GM, 0.36, 6 SPF, 90* PHS, 6 HOLES.POOH W/ WIRELINE. R/U RIG PUMP TO CSG. BRK DN PERFS @ 1200# @ 1.5 BPM. PUMP 5 BBLS @ 950# @ 1.5 BPM. ISIP=750#.</p> <p>RIH W/ HLBRTN CCR &amp; PERF GUNS. SET CCR @ 3300'. PUH &amp; PERF CSG @ 3234'-3235' USING 3-1/8" EXP GUNS, 23 GM, 0.36, 6 SPF, 90* PHS, 6 HOLES. POOH &amp; RDMO CHS. BRK DN TOP SET OF PERFS @ 1400# @ 1.5 BPM. PUMPED 5 BBLS @ 1200# @ 1.5 BPM. ISIP=700#. P/U STINGER FOR CCR &amp; RIH ON NEW 2-3/8" L-80 TBG. [SLM &amp; DRIFTED] EOT @ 3300'.</p> <p>MIRU HLBRTN CEMENTERS. HLD JSA. P.T. PUMP &amp; LINES TO 2800#. P.T. TBG TO 900#. STING INTO CCR @ 3300'. PMP 5 BBLS FRESH WATER. COMUNICATED WITH TOP PERFS ALMOST INSTANTLY. MIX &amp; PUMP 25 SKS, 5 BBLS 15.8#, 1.15 YEILD, CLASS G CMT. DISPLACE TBG W/ 12.7 BBLS. STING OUT OF CCR. POOH &amp; STD BACK 7 STDS. EOT @ 2891'. REVERSE CIRCULATE TBG CLEAN W/ 20 BBLS. HAD 1 BBL CMT IN RETURNS. RDMO HLBRTN CEMENTERS. CONTINUE POOH W/ TBG. L/D STINGER. FILL CSG W/ 1/4 BBL. P.T. TO 500#. LEAVE PSI ON WELL OVER NIGHT.</p> <p>3PM SWI-SDFN.</p>
11/15/2011	7:00 - 15:00	8.00	COMP	30		P		<p>7AM [DAY 5] JSA- - RIH W/ TBG, SWWL, DRLG CMT, PSI.</p> <p>SICP=250#. SURFACE CSG PSI - - SLIGHT GAS VAPORS &amp; RELEASED 3 GALLON HEAVY OIL OVER NIGHT IN PIT. P/U 3-7/8" SLAUGH MILL. HAD TO WORK MILL THRU WTRFD WELL HEAD. RIH ON NEW 2-3/8" L-80 TBG. TAG CMT TOP @ 3269'. SQZ PERFS @ 3234'-3235'. (CCR @ 3300') R/U RIG PUMP &amp; P.T. CSG &amp; SQZ PERFS TO 1000#. LOST 100# IN 10 MINUTES. CONSULT WITH ENGINEERING. MONITOR SURFACE CASING FOR 4 HRS. SURFACE CSG APPEARED TO QUIT VENTING GAS &amp; OIL, WILL CHECK SURFACE CSG (BRADEN HEAD) PRESSURES IN AM.</p> <p>3PM SWI-SDFN. DRAIN PUMP &amp; LINES.</p>

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-20D4CS YELLOW

Spud Conductor: 5/19/2011

Spud Date: 6/2/2011

Project: UTAH-UINTAH

Site: NBU 921-20D PAD

Rig Name No: ROCKY MOUNTAIN WELL SERVICE  
3/3

Event: COMPLETION

Start Date: 9/9/2011

End Date: 11/18/2011

Active Datum: RKB @4,819.00usft (above Mean Sea  
Level)

UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/16/2011	7:00 - 16:00	9.00	COMP	30		P		.7AM [DAY 6] JSA - - PSI, WIRE LINE WORK, PUMPING CMT.  SICP=0#, SISCP=135#. BLEED OFF PSI. SURFACE CSG STILL VENTING SLIGHT GAS & HEAVY THICK OIL.  MIRU CHS. RIH W/ HLBRTN 8K CBP & PERF GUNS. SET CBP @ 3100'. PUH & PERF SQZ HOLES @ 2830-2831' USING 3-1/8" EXP GUNS, 23 GM, 0.36, 4 SPF, 90* PHS, 4 HOLES. POOH, RDMO CHS. R/U RIG PUMP & BRK DN PERFS @ 1550# @ 1/2 BPM. PUMPED 5 BBLS @ 1300# @ 1 BPM. ISIP=950#. RIH ON 2-3/8" L-80 TBG OPEN ENDED. EOT @ 2837'. MIRU PROPETRO. HLD JSA. P.T. PUMP & LINES TO 3700#. PUMP 5 BBLS FW, MIX & PUMP 25 SKS, 5 BBLS 15.8#, 1.15 YEILD, CLASS G CMT. DISPLACE TBG W/ 9.5 BBLS. POOH W/ 10 STDS. EOT @ 2203'. REVERSE CIRC TBG CLN W/ 15 BBLS. NO CMT IN RETURNS. STEP SQZ 6X @ 1/4 BPM WITH 5 MIN, 10 MIN, & 30 MIN INTERVALS. 3 BBLS SQZ'D INTO PERFS. GOT A 2000# SQZ. RDMO PROPETRO. FINISH POOH W/ TBG. MONITORED SURFACE CSG WHILE PUMPING CEMENT. DID NOT SEE MUCH OF A CHANGE. IT WAS STILL VENTING GAS VAPORS & 3 GALLONS WATER, 1/2 GALLON THICK OIL THRU OUT DAY. P.T. CSG W/ RIG PUMP TO 500# AND LEAVE PSI ON CSG OVERNIGHT. DRAIN PUMP AND LINES. SHUT SURFACE CSG VALVE TO PIT TO MONITOR PSI OVERNIGHT.  4PM SWI-SDFN.

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3	
Event: COMPLETION		Start Date: 9/9/2011		End Date: 11/18/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/17/2011	7:00 - 18:00	11.00	COMP	30		P		<p>7AM [DAY 7] JSA- - RIH W/ TBG, DRLG EQUIP, PSI, RIG PUMP, &amp; SWVL.</p> <p>SICP=300#. SISCP=20#. BLED OFF RIGHT AWAY. LEAVE OPEN &amp; MONITOR THRU OUT DAY. SURFACE CSG STANDING FULL WITH WATER. TINY GAS BUBBLES MIGRATING TO SURFACE ONCE IN AWHILE. GOT 1 GALLON WATER BACK IN BUCKET ALL DAY.</p> <p>P/U 3-7/8" SLAUGH MILL, WORK THRU WTRFD WELL HEAD. RIH ON NEW 2-3/8" L-80 TBG. TAG TOC @ 2702'. R/U SWVL &amp; RIG PUMP. ESTABLISH CIRCULATION. D/O 135' MEDIUM TO HARD CMT TO 2837'. AVG 25 MIN JT. FELL THRU, RIH TO 2870'. P.T. CSG &amp; SQZ HOLES TO 1000#. LOST 0# IN 10 MINUTES. RIH, TAG CBP @ 3100'. D/O HLBRTN 8K CBP IN 10 MINUTES. RIH, TAG TOC @ 3269'. D/O 31' HARD CMT TO CCR @ 3100'. D/O HLBRTN CCR IN 25 MINUTES. D/O 25' HARD CMT TO 3325'. FELL THRU. (BTM SQZ PERF @ 3325) P.T. CSG &amp; SQZ PERF TO 1000#. LOST 300# IN 10 MINUTES. POOH W/ TBG. L/D BHA.</p> <p>MIRU CHS. RUN A CBL-CCL-GR LOG FROM 3500' TO 2500'. - - LOGGED OVER SQZ HOLES. CEMENT LOOKED GOOD AT SQZ HOLES. RDMO CHS.</p> <p>6PM SWI- SDFN</p>

**US ROCKIES REGION**  
**Operation Summary Report**

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3	
Event: COMPLETION		Start Date: 9/9/2011		End Date: 11/18/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)			UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0		

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
11/18/2011	7:00 -		COMP	30		P		<p>7AM [DAY 8] JSA- -DRLG PLUGS, SWWL, PUMP, PSI.</p> <p>SICP=0#. SISCP=10#. BLEW DOWN INSTANT. LEFT OPEN TO PIT TO MONITOR.</p> <p>P/U 3-7/8" SEALED BRG BIT, POBS W/ XN &amp; RIH ON 2-3/8" L-80 TBG. TAG KILL PLUG @ 7939'. R/U SWWL &amp; RIG PUMP.</p> <p>ESTABLISH CIRCULATION. START DRLG PLUGS.</p> <p>[DRLG CBP#1] @ 7939' D/O HLBRTN 8K CBP IN 10 MIN. 150# INC. RIH &amp; C/O 15' SAND TO CBP#2. FCP=150#.</p> <p>[DRLG CBP#2] @ 8132'. D/O HLBRTN 8K CBP IN 6 MIN. 100# INC. RIH &amp; C/O 30' SAND TO CBP#3. FCP=200#.</p> <p>HEAT EXPANSION CAUSED SURFACE CSG TO RELEASE 2 BBLS HVY OIL INTO PIT IN APPROX 30 MIN. THEN QUIT REST OF DAY. STANDING FULL OF WATER WITH TINY GAS BUBBLES ONCE IN AWHILE.</p> <p>[DRLG CBP#3] @ 8274'. D/O HLBRTN 8K CBP IN 5 MIN. 800# INC. RIH &amp; C/O 30' SAND TO CBP#4. FCP=1000#.</p> <p>[DRLG CBP#4] @ 8515'. D/O HLBRTN 8K CBP IN 7 MIN. 100# INC. RIH &amp; C/O 30' SAND TO CBP#5. FCP=500#.</p> <p>[DRLG CBP#5] @ 8732'. D/O HLBRTN 8K CBP IN 5 MIN. 300# INC. RIH &amp; C/O 20' SAND TO CBP#6. FCP=700#.</p> <p>[DRLG CBP#6] @ 8938'. D/O HLBRTN 8K CBP IN 6 MIN. 100# INC. RIH &amp; C/O 15' SAND TO CBP#7. FCP=700#.</p> <p>[DRLG CBP#7] @ 9384'. D/O HLBRTN 8KCBP IN 4 MIN. 50# INC. RIH &amp; C/O 15' SAND TO CBP#8. FCP=600#.</p> <p>[DRLG CBP#8] @ 9650'. D/O HLBRTN 8K CBP IN 5 MIN. 100# INC. RIH &amp; C/O 30' SAND TO CBP#9. FCP=600#.</p> <p>[DRLG CBP#9] @ 9936'. D/O HLBRTN 8K CBP IN 7 MIN. 150# INC. RIH, TAG @ 10,260'. 125' RATHOLE. B.P. @ 10,135, ORIG PBTD @ 10,381'. CIRC WELL CLN. FCP=700#. R/D SWVL. POOH &amp; L/D 18 JTS ON FLOAT. LAND TBG ON HANGER W/ 305 JTS NEW 2-3/8" L-80 TBG. EOT @ 9701.56' &amp; POBS W/ XN @ 9699.36'. R/D FLOOR &amp; TBG EQUIPMENT.</p> <p>NDBOP, NUWH. DROP BALL DN TBG &amp; PUMP OFF</p>

## US ROCKIES REGION

## Operation Summary Report

Well: NBU 921-20D4CS YELLOW		Spud Conductor: 5/19/2011		Spud Date: 6/2/2011	
Project: UTAH-UINTAH		Site: NBU 921-20D PAD		Rig Name No: ROCKY MOUNTAIN WELL SERVICE 3/3	
Event: COMPLETION		Start Date: 9/9/2011		End Date: 11/18/2011	
Active Datum: RKB @4,819.00usft (above Mean Sea Level)		UWI: NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0			

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
								<p>THE BIT @ 2800#. OPEN WELL TO PIT TO UNLOAD TBG VOLUME.</p> <p>5 PM TURN WELL OVER TO APC CREW &amp; DELSCO FBC. FTP=2100#, SICP=2300#. SELLING GAS AT 528 MCFD RATE.</p> <p>LTR=7500 BBLS. RACK EQUIPMENT. DRAIN PMP &amp; LINES. R/D RIG. SURFACE CSG VALVE OPEN WITH POP OFF ASSEMBLY INSTALLED. FBC WILL MONITOR DURING FLOW BACK. 0# ON IT @ 5PM TODAY.</p> <p>SDF-WE</p>

## 1 General

### 1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-20D4CS YELLOW	Wellbore No.	OH
Well Name	NBU 921-20D4CS	Wellbore Name	NBU 921-20D4CS
Report No.	1	Report Date	9/9/2011
Project	UTAH-UINTAH	Site	NBU 921-20D PAD
Rig Name/No.		Event	COMPLETION
Start Date	9/9/2011	End Date	11/18/2011
Spud Date	6/2/2011	Active Datum	RKB @ 4,819.00usft (above Mean Sea Level)
UWI	NW/NW/0/9/S/21/E/20/0/0/26/PM/N/959/W/0/1292/0/0		

### 1.3 General

Contractor	CASED HOLE SOLUTIONS	Job Method	PERFORATE	Supervisor	DAVE DANIELS
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

### 1.4 Initial Conditions

Fluid Type		Fluid Density		Gross Interval	7,989.0 (usft)-10,135.0 (usft)	Start Date/Time	9/12/2011 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	36	End Date/Time	9/12/2011 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	213	Net Perforation Interval	57.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.74 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

### 1.5 Summary

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/12/2011 12:00AM	MESAVERDE/			7,989.0	7,990.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	



## 2.1 Perforated Interval (Continued)

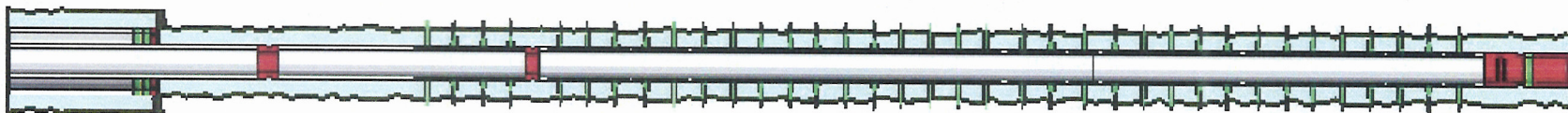
Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Mistires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/12/2011 12:00AM	MESAVERDE/			8,010.0	8,012.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,075.0	8,077.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,101.0	8,102.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,180.0	8,182.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,206.0	8,208.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,242.0	8,244.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,338.0	8,340.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,385.0	8,387.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,478.0	8,480.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,554.0	8,555.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,588.0	8,589.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,639.0	8,640.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,657.0	8,658.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,700.0	8,702.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,764.0	8,765.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,781.0	8,782.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,848.0	8,850.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,879.0	8,881.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			8,907.0	8,908.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,146.0	9,148.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,194.0	9,196.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
9/12/2011 12:00AM	MESAVERDE/			9,352.0	9,354.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,445.0	9,446.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,498.0	9,500.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,539.0	9,540.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,576.0	9,577.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,619.0	9,620.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,732.0	9,733.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,778.0	9,780.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,802.0	9,803.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,864.0	9,865.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,897.0	9,900.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			9,977.0	9,980.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			10,022.0	10,024.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
9/12/2011 12:00AM	MESAVERDE/			10,134.0	10,135.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

## 3 Plots

### 3.1 Wellbore Schematic



Project: UTAH - UTM (feet), NAD27, Zone 12N  
 Site: UINAH\_NBU 921-20D PAD  
 Well: NBU 921-20D4CS  
 Wellbore: NBU 921-20D4CS  
 Section:  
 SHL: P\_NBU 921-20D4CS  
 Design: NBU 921-20D4CS (wp01) H&P 298  
 Latitude: 40.026240  
 Longitude: -109.579723  
 GL: 4793.00  
 KB: 26' RKB + 4793' GL @ 4819.00ft (H&P 298)

#### FORMATION TOP DETAILS

TVDPath	MDPath	Formation
5017.00	5084.95	Top Wasatch (top of cylinder)
8106.00	8173.98	Top Mesaverde
9065.00	9132.99	MVU21
9562.00	9630.00	MVL1



# Weatherford®



Azimuths to True North  
 Magnetic North: 11.37°  
 Magnetic Field  
 Strength: 52575.6snT  
 Dip Angle: 65.94°  
 Date: 4/20/2009  
 Model: IGRF200510

#### WELL DETAILS: NBU 921-20D4CS

+N/-S	+E/-W	Northing	Ground Level: Easting	4793.00 Latitude	Longitude	Slot
0.00	0.00	14538769.11	2038031.87	40.026240	-109.579723	

#### CASING DETAILS

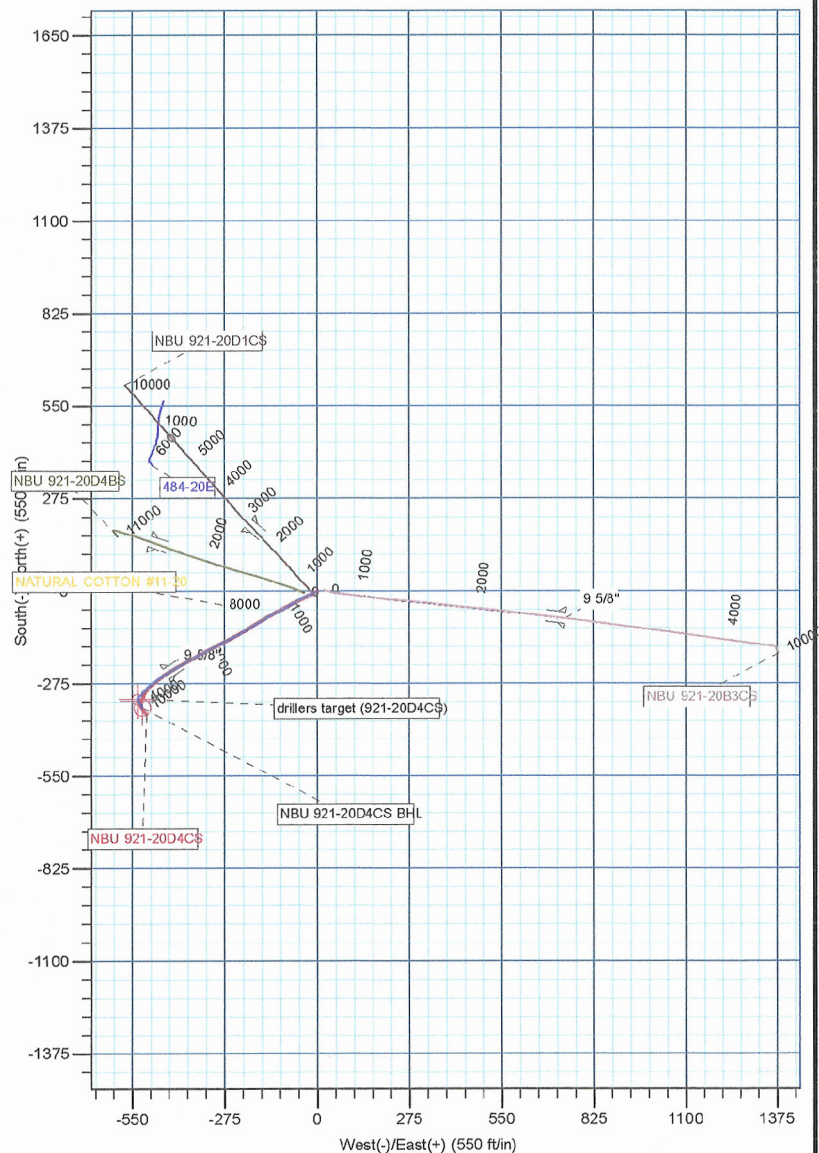
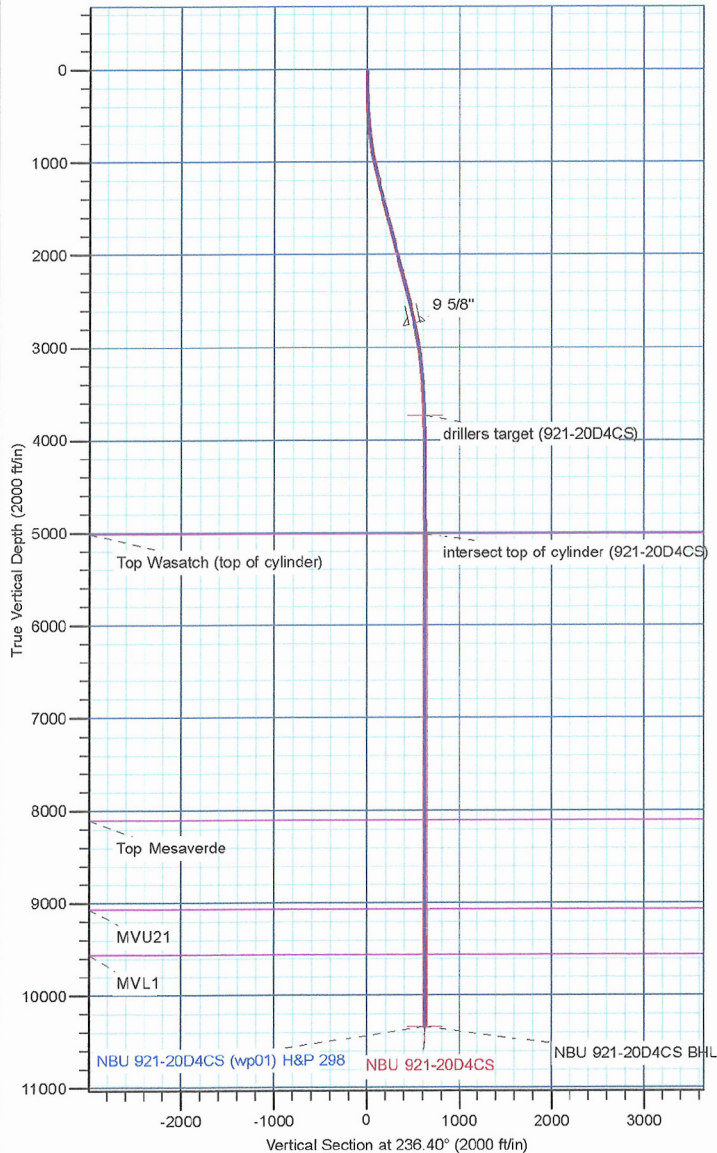
TVD	MD	Name	Size
2741.57	2800.99	9 5/8"	9-5/8

#### DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
drillers target (921-20D4CS)	3736.00	-321.35	-536.37	14538439.24	2037500.70	40.025358	-109.581639	Circle (Radius: 15.00)
intersect top of cylinder (921-20D4CS)	5017.00	-326.07	-533.54	14538434.57	2037503.60	40.025345	-109.581628	Point
NBU 921-20D4CS BHL	10336.00	-346.35	-521.37	14538414.49	2037516.09	40.025289	-109.581585	Circle (Radius: 25.00)

#### SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
2799.00	11.75	236.89	2739.62	-245.52	-450.04	0.00	0.00	510.72
2949.00	11.75	236.89	2886.48	-262.20	-475.63	0.00	0.00	541.26
3279.63	5.66	218.60	3213.19	-293.38	-514.05	2.00	-164.39	590.52
3480.29	5.66	218.60	3412.88	-308.86	-526.40	0.00	0.00	609.37
3803.94	0.00	0.00	3736.00	-321.35	-536.37	1.75	180.00	624.59
3888.85	0.25	149.04	3820.91	-321.51	-536.27	0.30	149.04	624.60
10404.00	0.25	149.04	10336.00	-346.35	-521.37	0.00	0.00	625.93





# APC Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

Site		UINTAH_NBU 921-20D PAD			
Site Position:		Northing:	14,538,764.47 ft	Latitude:	40.026229
From:	Lat/Long	Easting:	2,037,992.18 ft	Longitude:	-109.579865
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.91 °

<b>Well</b>	NBU 921-20D4CS					
<b>Well Position</b>	<b>+N/-S</b>	0.00 ft	<b>Northing:</b>	14,538,769.11 ft	<b>Latitude:</b>	40.026240
	<b>+E/-W</b>	0.00 ft	<b>Easting:</b>	2,038,031.87 ft	<b>Longitude:</b>	-109.579723
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b>	4,793.00 ft	

<b>Wellbore</b>	NBU 921-20D4CS				
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/20/2009	11.37	65.94	52,576

<b>Design</b>	NBU 921-20D4CS				
<b>Audit Notes:</b>					
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b>	17.00
<b>Vertical Section:</b>	<b>Depth From (TVD)</b>	<b>+N/-S</b>	<b>+E/-W</b>	<b>Direction</b>	
	(ft)	(ft)	(ft)	(°)	
	17.00	0.00	0.00	236.40	

Survey Program		Date	7/11/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
198.00	2,799.00	Survey #1 (NBU 921-20D4CS)	MWD	MWD - Standard	
2,799.00	10,416.00	Survey #2 (NBU 921-20D4CS)	MWD	MWD - Standard	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
17.00	0.00	0.00	17.00	0.00	0.00	0.00	0.00	0.00	0.00
198.00	0.09	17.18	198.00	0.14	0.04	-0.11	0.05	0.05	0.00
288.00	1.23	246.84	287.99	-0.18	-0.83	0.79	1.43	1.27	-144.82
381.00	2.27	234.24	380.95	-1.65	-3.24	3.61	1.19	1.12	-13.55
444.00	3.23	239.52	443.88	-3.27	-5.78	6.63	1.57	1.52	8.38
571.00	4.68	246.09	570.57	-7.19	-13.60	15.31	1.19	1.14	5.17
666.00	6.12	244.79	665.15	-10.92	-21.73	24.14	1.52	1.52	-1.37
761.00	7.13	243.94	759.51	-15.66	-31.60	34.99	1.07	1.06	-0.89
857.00	8.74	245.07	854.59	-21.36	-43.57	48.11	1.68	1.68	1.18
952.00	10.44	240.41	948.26	-28.65	-57.60	63.83	1.97	1.79	-4.91

# APC Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
1,046.00	12.20	240.58	1,040.43	-37.74	-73.66	82.24	1.87	1.87	0.18
1,141.00	13.98	242.21	1,132.95	-48.02	-92.56	103.67	1.91	1.87	1.72
1,237.00	14.39	243.32	1,226.03	-58.78	-113.47	127.04	0.51	0.43	1.16
1,332.00	14.91	242.07	1,317.94	-69.80	-134.82	150.93	0.64	0.55	-1.32
1,427.00	14.96	239.59	1,409.73	-81.74	-156.19	175.33	0.67	0.05	-2.61
1,522.00	13.98	237.10	1,501.72	-94.18	-176.40	199.05	1.22	-1.03	-2.62
1,618.00	14.53	239.43	1,594.76	-106.60	-196.51	222.67	0.83	0.57	2.43
1,713.00	14.54	238.21	1,686.72	-118.94	-216.91	246.49	0.32	0.01	-1.28
1,808.00	15.35	242.25	1,778.51	-131.08	-238.17	270.92	1.39	0.85	4.25
1,902.00	16.00	242.96	1,869.01	-142.76	-260.72	296.17	0.72	0.69	0.76
1,997.00	14.91	242.63	1,960.58	-154.33	-283.24	321.32	1.15	-1.15	-0.35
2,092.00	14.84	242.45	2,052.39	-165.58	-304.88	345.57	0.09	-0.07	-0.19
2,187.00	14.83	241.90	2,144.23	-176.93	-326.39	369.77	0.15	-0.01	-0.58
2,282.00	13.56	240.95	2,236.32	-188.07	-346.85	392.98	1.36	-1.34	-1.00
2,377.00	13.58	242.98	2,328.67	-198.54	-366.52	415.16	0.50	0.02	2.14
2,471.00	13.58	241.60	2,420.05	-208.81	-386.06	437.11	0.34	0.00	-1.47
2,566.00	13.58	241.44	2,512.39	-219.44	-405.67	459.33	0.04	0.00	-0.17
2,661.00	13.10	239.69	2,604.83	-230.21	-424.76	481.19	0.66	-0.51	-1.84
2,756.00	12.06	238.72	2,697.54	-240.79	-442.53	501.85	1.12	-1.09	-1.02
2,799.00	11.75	236.89	2,739.62	-245.52	-450.04	510.72	1.14	-0.72	-4.26
2,844.00	11.34	236.49	2,783.71	-250.46	-457.57	519.73	0.93	-0.91	-0.89
2,939.00	10.34	233.61	2,877.01	-260.68	-472.22	537.58	1.20	-1.05	-3.03
3,033.00	9.48	230.47	2,969.61	-270.61	-484.98	553.71	1.08	-0.91	-3.34
3,128.00	7.69	229.39	3,063.54	-279.73	-495.84	567.80	1.89	-1.88	-1.14
3,222.00	5.88	224.52	3,156.88	-287.26	-503.99	578.75	2.02	-1.93	-5.18
3,317.00	5.00	216.14	3,251.45	-294.07	-509.85	587.40	1.25	-0.93	-8.82
3,411.00	3.94	207.02	3,345.17	-300.25	-513.73	594.06	1.35	-1.13	-9.70
3,505.00	3.50	205.14	3,438.97	-305.73	-516.42	599.32	0.49	-0.47	-2.00
3,694.00	3.88	199.02	3,627.58	-317.00	-520.95	609.34	0.29	0.20	-3.24
3,789.00	3.06	193.77	3,722.40	-322.50	-522.60	613.75	0.92	-0.86	-5.53
3,883.00	1.69	202.51	3,816.32	-326.22	-523.73	616.75	1.50	-1.46	9.30
3,978.00	0.56	136.64	3,911.30	-327.85	-523.95	617.84	1.63	-1.19	-69.34
4,072.00	0.50	153.77	4,005.30	-328.55	-523.45	617.81	0.18	-0.06	18.22
4,166.00	0.38	219.02	4,099.30	-329.16	-523.47	618.16	0.52	-0.13	69.41
4,261.00	0.75	284.27	4,194.29	-329.25	-524.27	618.88	0.72	0.39	68.68
4,356.00	1.69	343.27	4,289.27	-327.76	-525.27	618.89	1.53	0.99	62.11
4,450.00	0.81	338.26	4,383.25	-325.81	-525.92	618.35	0.94	-0.94	-5.33
4,544.00	0.38	257.02	4,477.25	-325.26	-526.47	618.51	0.89	-0.46	-86.43
4,639.00	0.63	235.39	4,572.24	-325.63	-527.20	619.32	0.33	0.26	-22.77
4,733.00	0.88	234.52	4,666.23	-326.34	-528.22	620.56	0.27	0.27	-0.93
4,828.00	0.88	216.62	4,761.22	-327.35	-529.25	621.98	0.29	0.00	-18.84
4,922.00	1.13	208.64	4,855.21	-328.75	-530.12	623.48	0.30	0.27	-8.49
5,017.00	0.94	215.39	4,950.19	-330.20	-531.02	625.03	0.24	-0.20	7.11



# APC Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

## Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,111.00	0.56	323.89	5,044.19	-330.46	-531.74	625.77	1.32	-0.40	115.43
5,206.00	0.44	306.89	5,139.18	-329.87	-532.30	625.91	0.20	-0.13	-17.89
5,300.00	0.19	285.39	5,233.18	-329.61	-532.74	626.14	0.29	-0.27	-22.87
5,394.00	0.25	328.89	5,327.18	-329.39	-533.00	626.23	0.18	0.06	46.28
5,489.00	0.13	44.89	5,422.18	-329.14	-533.03	626.12	0.27	-0.13	80.00
5,583.00	0.31	222.14	5,516.18	-329.25	-533.13	626.26	0.47	0.19	188.56
5,677.00	0.50	191.27	5,610.18	-329.84	-533.38	626.79	0.30	0.20	-32.84
5,772.00	1.06	18.64	5,705.18	-329.42	-533.18	626.39	1.64	0.59	-181.72
5,866.00	0.94	37.89	5,799.16	-327.98	-532.42	624.97	0.38	-0.13	20.48
5,961.00	0.81	41.89	5,894.15	-326.87	-531.50	623.58	0.15	-0.14	4.21
6,055.00	0.75	30.02	5,988.14	-325.84	-530.75	622.39	0.18	-0.06	-12.63
6,149.00	0.38	63.39	6,082.14	-325.17	-530.16	621.53	0.51	-0.39	35.50
6,244.00	0.31	356.02	6,177.14	-324.77	-529.90	621.09	0.41	-0.07	-70.92
6,338.00	0.13	101.27	6,271.14	-324.54	-529.81	620.89	0.39	-0.19	111.97
6,433.00	0.19	102.39	6,366.13	-324.59	-529.55	620.70	0.06	0.06	1.18
6,527.00	0.50	132.89	6,460.13	-324.91	-529.10	620.50	0.37	0.33	32.45
6,622.00	0.38	135.27	6,555.13	-325.41	-528.57	620.34	0.13	-0.13	2.51
6,716.00	0.38	181.64	6,649.13	-325.95	-528.36	620.46	0.32	0.00	49.33
6,811.00	0.38	176.77	6,744.13	-326.57	-528.35	620.80	0.03	0.00	-5.13
6,905.00	0.44	194.39	6,838.12	-327.24	-528.42	621.23	0.15	0.06	18.74
6,999.00	0.69	181.52	6,932.12	-328.15	-528.53	621.82	0.30	0.27	-13.69
7,094.00	0.25	222.39	7,027.12	-328.88	-528.68	622.35	0.55	-0.46	43.02
7,188.00	0.19	261.27	7,121.12	-329.05	-528.98	622.69	0.17	-0.06	41.36
7,283.00	0.50	230.14	7,216.11	-329.34	-529.45	623.25	0.37	0.33	-32.77
7,378.00	0.63	207.27	7,311.11	-330.07	-530.01	624.11	0.27	0.14	-24.07
7,472.00	1.19	12.27	7,405.10	-329.58	-530.04	623.86	1.92	0.60	175.53
7,567.00	1.06	23.14	7,500.09	-327.80	-529.48	622.42	0.26	-0.14	11.44
7,662.00	0.75	16.14	7,595.07	-326.40	-528.96	621.21	0.35	-0.33	-7.37
7,756.00	0.56	34.02	7,689.07	-325.43	-528.54	620.32	0.29	-0.20	19.02
7,851.00	0.38	39.52	7,784.06	-324.80	-528.08	619.59	0.20	-0.19	5.79
7,946.00	0.31	7.77	7,879.06	-324.30	-527.84	619.12	0.21	-0.07	-33.42
8,041.00	0.25	6.27	7,974.06	-323.84	-527.78	618.81	0.06	-0.06	-1.58
8,136.00	0.19	65.77	8,069.06	-323.57	-527.62	618.53	0.24	-0.06	62.63
8,231.00	0.25	106.02	8,164.06	-323.56	-527.27	618.24	0.17	0.06	42.37
8,326.00	0.31	122.39	8,259.06	-323.76	-526.86	618.00	0.10	0.06	17.23
8,420.00	0.19	153.27	8,353.06	-324.03	-526.57	617.91	0.19	-0.13	32.85
8,515.00	0.13	160.14	8,448.06	-324.28	-526.47	617.96	0.07	-0.06	7.23
8,609.00	0.56	137.39	8,542.06	-324.71	-526.12	617.91	0.47	0.46	-24.20
8,704.00	0.63	124.02	8,637.05	-325.35	-525.37	617.64	0.16	0.07	-14.07
8,798.00	0.69	125.77	8,731.04	-325.97	-524.48	617.24	0.07	0.06	1.86
8,895.00	0.75	246.52	8,828.04	-326.56	-524.59	617.66	1.29	0.06	124.48
8,987.00	0.69	236.27	8,920.03	-327.11	-525.60	618.81	0.15	-0.07	-11.14
9,081.00	0.75	204.14	9,014.03	-327.98	-526.33	619.89	0.43	0.06	-34.18

**APC**  
Survey Report



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

**Survey**

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,175.00	0.94	198.52	9,108.02	-329.28	-526.82	621.02	0.22	0.20	-5.98
9,270.00	0.94	186.02	9,203.00	-330.79	-527.15	622.14	0.22	0.00	-13.16
9,364.00	1.19	173.89	9,296.99	-332.53	-527.13	623.08	0.36	0.27	-12.90
9,553.00	1.50	183.64	9,485.94	-336.95	-527.08	625.48	0.20	0.16	5.16
9,647.00	2.00	172.89	9,579.89	-339.80	-526.95	626.96	0.63	0.53	-11.44
9,742.00	2.38	156.02	9,674.82	-343.25	-525.95	628.02	0.78	0.40	-17.76
9,836.00	2.50	146.02	9,768.74	-346.73	-524.01	628.34	0.47	0.13	-10.64
9,931.00	2.56	146.64	9,863.65	-350.23	-521.68	628.33	0.07	0.06	0.65
10,025.00	2.50	147.52	9,957.55	-353.71	-519.43	628.38	0.08	-0.06	0.94
10,120.00	2.56	142.77	10,052.46	-357.15	-517.03	628.29	0.23	0.06	-5.00
10,214.00	2.38	140.64	10,146.37	-360.33	-514.52	627.96	0.21	-0.19	-2.27
10,416.00	2.38	140.64	10,348.20	-366.81	-509.20	627.11	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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# **US ROCKIES REGION PLANNING**

**UTAH - UTM (feet), NAD27, Zone 12N**

**UINTAH\_NBU 921-20D PAD**

**NBU 921-20D4CS**

**NBU 921-20D4CS**

**Design: NBU 921-20D4CS**

## **Survey Report - Geographic**

**11 July, 2011**



**Weatherford®**

# APC

## Survey Report - Geographic



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

<b>Project</b>	UTAH - UTM (feet), NAD27, Zone 12N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Fee	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	Zone 12N (114 W to 108 W)		

<b>Site</b>	UINTAH_NBU 921-20D PAD			
<b>Site Position:</b>		<b>Northing:</b>	14,538,764.47 ft	<b>Latitude:</b> 40.026229
<b>From:</b>	Lat/Long	<b>Easting:</b>	2,037,992.18 ft	<b>Longitude:</b> -109.579865
<b>Position Uncertainty:</b>	0.00 ft	<b>Slot Radius:</b>	0 "	<b>Grid Convergence:</b> 0.91 °

<b>Well</b>	NBU 921-20D4CS			
<b>Well Position</b>	+N/-S	0.00 ft	<b>Northing:</b> 14,538,769.11 ft	<b>Latitude:</b> 40.026240
	+E/-W	0.00 ft	<b>Easting:</b> 2,038,031.87 ft	<b>Longitude:</b> -109.579723
<b>Position Uncertainty</b>	0.00 ft	<b>Wellhead Elevation:</b>	ft	<b>Ground Level:</b> 4,793.00 ft

<b>Wellbore</b>	NBU 921-20D4CS			
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	4/20/2009	11.37	65.94	52,576

<b>Design</b>	NBU 921-20D4CS			
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<b>Audit Notes:</b>				
<b>Version:</b>	1.0	<b>Phase:</b>	ACTUAL	<b>Tie On Depth:</b> 17.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	17.00	0.00	0.00	236.40

Survey Program		Date	7/11/2011		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
198.00	2,799.00	Survey #1 (NBU 921-20D4CS)	MWD	MWD - Standard	
2,799.00	10,416.00	Survey #2 (NBU 921-20D4CS)	MWD	MWD - Standard	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
17.00	0.00	0.00	17.00	0.00	0.00	14,538,769.11	2,038,031.87	40.026240	-109.579723
198.00	0.09	17.18	198.00	0.14	0.04	14,538,769.25	2,038,031.91	40.026240	-109.579723
288.00	1.23	246.84	287.99	-0.18	-0.83	14,538,768.92	2,038,031.05	40.026240	-109.579726
381.00	2.27	234.24	380.95	-1.65	-3.24	14,538,767.41	2,038,028.66	40.026236	-109.579735
444.00	3.23	239.52	443.88	-3.27	-5.78	14,538,765.74	2,038,026.14	40.026231	-109.579744
571.00	4.68	246.09	570.57	-7.19	-13.60	14,538,761.70	2,038,018.39	40.026220	-109.579772
666.00	6.12	244.79	665.15	-10.92	-21.73	14,538,757.85	2,038,010.32	40.026210	-109.579801
761.00	7.13	243.94	759.51	-15.66	-31.60	14,538,752.94	2,038,000.52	40.026197	-109.579836
857.00	8.74	245.07	854.59	-21.36	-43.57	14,538,747.06	2,037,988.65	40.026181	-109.579879
952.00	10.44	240.41	948.26	-28.65	-57.60	14,538,739.55	2,037,974.73	40.026161	-109.579929
1,046.00	12.20	240.58	1,040.43	-37.74	-73.66	14,538,730.21	2,037,958.82	40.026136	-109.579986

# APC

## Survey Report - Geographic



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
1,141.00	13.98	242.21	1,132.95	-48.02	-92.56	14,538,719.62	2,037,940.09	40.026108	-109.580054
1,237.00	14.39	243.32	1,226.03	-58.78	-113.47	14,538,708.53	2,037,919.35	40.026079	-109.580129
1,332.00	14.91	242.07	1,317.94	-69.80	-134.82	14,538,697.16	2,037,898.18	40.026048	-109.580205
1,427.00	14.96	239.59	1,409.73	-81.74	-156.19	14,538,684.89	2,037,877.00	40.026016	-109.580281
1,522.00	13.98	237.10	1,501.72	-94.18	-176.40	14,538,672.13	2,037,856.99	40.025982	-109.580353
1,618.00	14.53	239.43	1,594.76	-106.60	-196.51	14,538,659.39	2,037,837.08	40.025947	-109.580425
1,713.00	14.54	238.21	1,686.72	-118.94	-216.91	14,538,646.72	2,037,816.89	40.025914	-109.580498
1,808.00	15.35	242.25	1,778.51	-131.08	-238.17	14,538,634.25	2,037,795.82	40.025880	-109.580574
1,902.00	16.00	242.96	1,869.01	-142.76	-260.72	14,538,622.21	2,037,773.46	40.025848	-109.580654
1,997.00	14.91	242.63	1,960.58	-154.33	-283.24	14,538,610.28	2,037,751.13	40.025816	-109.580735
2,092.00	14.84	242.45	2,052.39	-165.58	-304.88	14,538,598.69	2,037,729.67	40.025785	-109.580812
2,187.00	14.83	241.90	2,144.23	-176.93	-326.39	14,538,586.99	2,037,708.34	40.025754	-109.580889
2,282.00	13.56	240.95	2,236.32	-188.07	-346.85	14,538,575.54	2,037,688.06	40.025724	-109.580962
2,377.00	13.58	242.98	2,328.67	-198.54	-366.52	14,538,564.75	2,037,668.56	40.025695	-109.581032
2,471.00	13.58	241.60	2,420.05	-208.81	-386.06	14,538,554.18	2,037,649.19	40.025667	-109.581102
2,566.00	13.58	241.44	2,512.39	-219.44	-405.67	14,538,543.23	2,037,629.75	40.025638	-109.581172
2,661.00	13.10	239.69	2,604.83	-230.21	-424.76	14,538,532.16	2,037,610.84	40.025608	-109.581240
2,756.00	12.06	238.72	2,697.54	-240.79	-442.53	14,538,521.29	2,037,593.23	40.025579	-109.581304
2,799.00	11.75	236.89	2,739.62	-245.52	-450.04	14,538,516.45	2,037,585.80	40.025566	-109.581331
2,844.00	11.34	236.49	2,783.71	-250.46	-457.57	14,538,511.38	2,037,578.35	40.025552	-109.581357
2,939.00	10.34	233.61	2,877.01	-260.68	-472.22	14,538,500.93	2,037,563.87	40.025524	-109.581410
3,033.00	9.48	230.47	2,969.61	-270.61	-484.98	14,538,490.80	2,037,551.27	40.025497	-109.581455
3,128.00	7.69	229.39	3,063.54	-279.73	-495.84	14,538,481.51	2,037,540.55	40.025472	-109.581494
3,222.00	5.88	224.52	3,156.88	-287.26	-503.99	14,538,473.85	2,037,532.52	40.025451	-109.581523
3,317.00	5.00	216.14	3,251.45	-294.07	-509.85	14,538,466.95	2,037,526.78	40.025433	-109.581544
3,411.00	3.94	207.02	3,345.17	-300.25	-513.73	14,538,460.70	2,037,522.99	40.025416	-109.581558
3,505.00	3.50	205.14	3,438.97	-305.73	-516.42	14,538,455.19	2,037,520.39	40.025401	-109.581568
3,694.00	3.88	199.02	3,627.58	-317.00	-520.95	14,538,443.85	2,037,516.04	40.025370	-109.581584
3,789.00	3.06	193.77	3,722.40	-322.50	-522.60	14,538,438.32	2,037,514.48	40.025355	-109.581590
3,883.00	1.69	202.51	3,816.32	-326.22	-523.73	14,538,434.58	2,037,513.41	40.025344	-109.581594
3,978.00	0.56	136.64	3,911.30	-327.85	-523.95	14,538,432.95	2,037,513.22	40.025340	-109.581594
4,072.00	0.50	153.77	4,005.30	-328.55	-523.45	14,538,432.26	2,037,513.72	40.025338	-109.581593
4,166.00	0.38	219.02	4,099.30	-329.16	-523.47	14,538,431.65	2,037,513.72	40.025336	-109.581593
4,261.00	0.75	284.27	4,194.29	-329.25	-524.27	14,538,431.54	2,037,512.92	40.025336	-109.581596
4,356.00	1.69	343.27	4,289.27	-327.76	-525.27	14,538,433.02	2,037,511.89	40.025340	-109.581599
4,450.00	0.81	338.26	4,383.25	-325.81	-525.92	14,538,434.95	2,037,511.21	40.025345	-109.581602
4,544.00	0.38	257.02	4,477.25	-325.26	-526.47	14,538,435.49	2,037,510.66	40.025347	-109.581603
4,639.00	0.63	235.39	4,572.24	-325.63	-527.20	14,538,435.11	2,037,509.92	40.025346	-109.581606
4,733.00	0.88	234.52	4,666.23	-326.34	-528.22	14,538,434.38	2,037,508.92	40.025344	-109.581610
4,828.00	0.88	216.62	4,761.22	-327.35	-529.25	14,538,433.36	2,037,507.91	40.025341	-109.581613
4,922.00	1.13	208.64	4,855.21	-328.75	-530.12	14,538,431.95	2,037,507.06	40.025337	-109.581617
5,017.00	0.94	215.39	4,950.19	-330.20	-531.02	14,538,430.48	2,037,506.18	40.025333	-109.581620
5,111.00	0.56	323.89	5,044.19	-330.46	-531.74	14,538,430.21	2,037,505.47	40.025333	-109.581622
5,206.00	0.44	306.89	5,139.18	-329.87	-532.30	14,538,430.80	2,037,504.89	40.025334	-109.581624
5,300.00	0.19	285.39	5,233.18	-329.61	-532.74	14,538,431.05	2,037,504.45	40.025335	-109.581626
5,394.00	0.25	328.89	5,327.18	-329.39	-533.00	14,538,431.26	2,037,504.19	40.025336	-109.581627
5,489.00	0.13	44.89	5,422.18	-329.14	-533.03	14,538,431.51	2,037,504.16	40.025336	-109.581627
5,583.00	0.31	222.14	5,516.18	-329.25	-533.13	14,538,431.40	2,037,504.06	40.025336	-109.581627
5,677.00	0.50	191.27	5,610.18	-329.84	-533.38	14,538,430.81	2,037,503.82	40.025334	-109.581628
5,772.00	1.06	18.64	5,705.18	-329.42	-533.18	14,538,431.23	2,037,504.01	40.025336	-109.581627
5,866.00	0.94	37.89	5,799.16	-327.98	-532.42	14,538,432.68	2,037,504.74	40.025340	-109.581625
5,961.00	0.81	41.89	5,894.15	-326.87	-531.50	14,538,433.81	2,037,505.65	40.025343	-109.581621
6,055.00	0.75	30.02	5,988.14	-325.84	-530.75	14,538,434.85	2,037,506.39	40.025345	-109.581619
6,149.00	0.38	63.39	6,082.14	-325.17	-530.16	14,538,435.53	2,037,506.96	40.025347	-109.581617
6,244.00	0.31	356.02	6,177.14	-324.77	-529.90	14,538,435.93	2,037,507.22	40.025348	-109.581616

# APC

## Survey Report - Geographic



<b>Company:</b>	US ROCKIES REGION PLANNING	<b>Local Co-ordinate Reference:</b>	Well NBU 921-20D4CS
<b>Project:</b>	UTAH - UTM (feet), NAD27, Zone 12N	<b>TVD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Site:</b>	UINTAH_NBU 921-20D PAD	<b>MD Reference:</b>	26' RKB + 4793' GL @ 4819.00ft (H&P 298)
<b>Well:</b>	NBU 921-20D4CS	<b>North Reference:</b>	True
<b>Wellbore:</b>	NBU 921-20D4CS	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	NBU 921-20D4CS	<b>Database:</b>	edm5000p

### Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (ft)	Map Easting (ft)	Latitude	Longitude
6,338.00	0.13	101.27	6,271.14	-324.54	-529.81	14,538,436.16	2,037,507.30	40.025349	-109.581615
6,433.00	0.19	102.39	6,366.13	-324.59	-529.55	14,538,436.11	2,037,507.56	40.025349	-109.581614
6,527.00	0.50	132.89	6,460.13	-324.91	-529.10	14,538,435.81	2,037,508.02	40.025348	-109.581613
6,622.00	0.38	135.27	6,555.13	-325.41	-528.57	14,538,435.31	2,037,508.55	40.025347	-109.581611
6,716.00	0.38	181.64	6,649.13	-325.95	-528.36	14,538,434.78	2,037,508.77	40.025345	-109.581610
6,811.00	0.38	176.77	6,744.13	-326.57	-528.35	14,538,434.15	2,037,508.79	40.025343	-109.581610
6,905.00	0.44	194.39	6,838.12	-327.24	-528.42	14,538,433.49	2,037,508.73	40.025342	-109.581610
6,999.00	0.69	181.52	6,932.12	-328.15	-528.53	14,538,432.57	2,037,508.64	40.025339	-109.581611
7,094.00	0.25	222.39	7,027.12	-328.88	-528.68	14,538,431.85	2,037,508.50	40.025337	-109.581611
7,188.00	0.19	261.27	7,121.12	-329.05	-528.98	14,538,431.67	2,037,508.21	40.025337	-109.581612
7,283.00	0.50	230.14	7,216.11	-329.34	-529.45	14,538,431.37	2,037,507.74	40.025336	-109.581614
7,378.00	0.63	207.27	7,311.11	-330.07	-530.01	14,538,430.63	2,037,507.19	40.025334	-109.581616
7,472.00	1.19	12.27	7,405.10	-329.58	-530.04	14,538,431.12	2,037,507.15	40.025335	-109.581616
7,567.00	1.06	23.14	7,500.09	-327.80	-529.48	14,538,432.91	2,037,507.68	40.025340	-109.581614
7,662.00	0.75	16.14	7,595.07	-326.40	-528.96	14,538,434.32	2,037,508.18	40.025344	-109.581612
7,756.00	0.56	34.02	7,689.07	-325.43	-528.54	14,538,435.30	2,037,508.59	40.025347	-109.581611
7,851.00	0.38	39.52	7,784.06	-324.80	-528.08	14,538,435.93	2,037,509.04	40.025348	-109.581609
7,946.00	0.31	7.77	7,879.06	-324.30	-527.84	14,538,436.43	2,037,509.27	40.025350	-109.581608
8,041.00	0.25	6.27	7,974.06	-323.84	-527.78	14,538,436.90	2,037,509.32	40.025351	-109.581608
8,136.00	0.19	65.77	8,069.06	-323.57	-527.62	14,538,437.17	2,037,509.48	40.025352	-109.581608
8,231.00	0.25	106.02	8,164.06	-323.56	-527.27	14,538,437.18	2,037,509.82	40.025352	-109.581606
8,326.00	0.31	122.39	8,259.06	-323.76	-526.86	14,538,436.99	2,037,510.24	40.025351	-109.581605
8,420.00	0.19	153.27	8,353.06	-324.03	-526.57	14,538,436.72	2,037,510.53	40.025350	-109.581604
8,515.00	0.13	160.14	8,448.06	-324.28	-526.47	14,538,436.48	2,037,510.64	40.025350	-109.581603
8,609.00	0.56	137.39	8,542.06	-324.71	-526.12	14,538,436.05	2,037,511.00	40.025349	-109.581602
8,704.00	0.63	124.02	8,637.05	-325.35	-525.37	14,538,435.43	2,037,511.75	40.025347	-109.581600
8,798.00	0.69	125.77	8,731.04	-325.97	-524.48	14,538,434.82	2,037,512.65	40.025345	-109.581596
8,895.00	0.75	246.52	8,828.04	-326.56	-524.59	14,538,434.23	2,037,512.55	40.025343	-109.581597
8,987.00	0.69	236.27	8,920.03	-327.11	-525.60	14,538,433.66	2,037,511.55	40.025342	-109.581600
9,081.00	0.75	204.14	9,014.03	-327.98	-526.33	14,538,432.77	2,037,510.84	40.025340	-109.581603
9,175.00	0.94	198.52	9,108.02	-329.28	-526.82	14,538,431.47	2,037,510.36	40.025336	-109.581605
9,270.00	0.94	186.02	9,203.00	-330.79	-527.15	14,538,429.96	2,037,510.06	40.025332	-109.581606
9,364.00	1.19	173.89	9,296.99	-332.53	-527.13	14,538,428.22	2,037,510.11	40.025327	-109.581606
9,553.00	1.50	183.64	9,485.94	-336.95	-527.08	14,538,423.80	2,037,510.23	40.025315	-109.581606
9,647.00	2.00	172.89	9,579.89	-339.80	-526.95	14,538,420.95	2,037,510.40	40.025307	-109.581605
9,742.00	2.38	156.02	9,674.82	-343.25	-525.95	14,538,417.52	2,037,511.46	40.025298	-109.581602
9,836.00	2.50	146.02	9,768.74	-346.73	-524.01	14,538,414.06	2,037,513.46	40.025288	-109.581595
9,931.00	2.56	146.64	9,863.65	-350.23	-521.68	14,538,410.61	2,037,515.84	40.025278	-109.581586
10,025.00	2.50	147.52	9,957.55	-353.71	-519.43	14,538,407.16	2,037,518.15	40.025269	-109.581578
10,120.00	2.56	142.77	10,052.46	-357.15	-517.03	14,538,403.77	2,037,520.60	40.025259	-109.581570
10,214.00	2.38	140.64	10,146.37	-360.33	-514.52	14,538,400.63	2,037,523.16	40.025251	-109.581561
10,416.00	2.38	140.64	10,348.20	-366.81	-509.20	14,538,394.23	2,037,528.58	40.025233	-109.581542

Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_